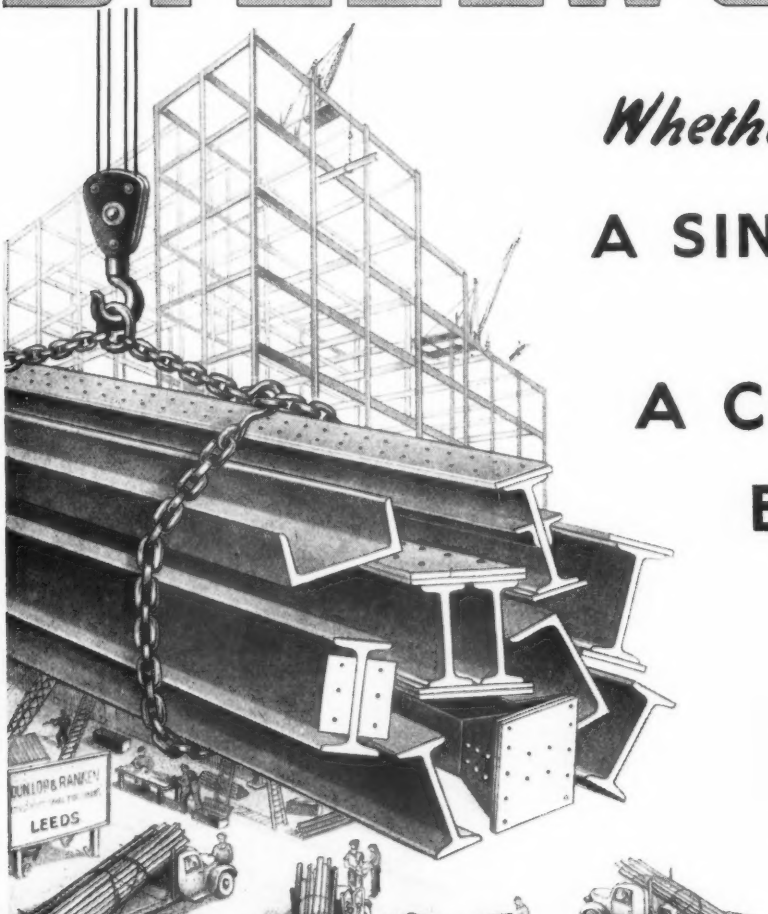
THIRD SERIES VOL 54 NUMBER 6 MARCH 1947

# THE ARCHITECTS' JOURNAL

ST. PAUL MINNESOTA
ACCEPTED
APR
26
1947
LIBRARY

66 PORTLAND PLACE LONDON W1 · TWO SHILLINGS AND SIXPENCE

# STEELWORK




*Whether you want*

A SINGLE JOIST

OR

A COMPLETE

BUILDING

*Try*

**D&R**

STEELWORK
SERVICE

# DUNLOP & RANKEN

LIMITED

TELEPHONE 27301 (20 LINES)
TELEGRAMS SECTIONS LEEDS

LEEDS

# THE JOURNAL OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

THIRD SERIES VOL 54 NUMBER 6 : MARCH 1947 : 66 PORTLAND PLACE LONDON W1 : TWO SHILLINGS & SIXPENCE



245 JOURNAL
247 HOUSING: PLANNING FOR AMENITY—EDWARD ARMSTRONG
256 PRESIDENT'S ADDRESS TO STUDENTS
258 DANISH EXHIBITION REVIEWED
260 NOISE AND THE NEW PLANNING—HOPE BAGENAL
267 SPEECH BY THE MINISTER OF HEALTH TO THE R.I.B.A. COUNCIL
269 OFFICE ORGANIZATION LECTURE—DISCUSSION—PARTNERSHIP AND PROFIT SHARING
275 DEFERMENT OF NATIONAL SERVICE—OFFICIAL R.I.B.A. ANNOUNCEMENT
276 REVIEW OF CONSTRUCTION AND MATERIALS
278 SCHOOLS AND STUDENTS
279 PRACTICE NOTES
281 BOOK REVIEWS
284 CORRESPONDENCE
286 OBITUARIES
287 NOTES AND NOTICES
290 NOTES FROM THE MINUTES OF COUNCIL
290 MEMBERSHIP LISTS
292 MEMBERS' COLUMN


### The Prime Minister: Hon. Fellow R.I.B.A.

At their meeting on 11 March the Council unanimously elected the Rt. Hon. Clement R. Attlee, C.H., M.P., Prime Minister, an Honorary Fellow.

At the same meeting the Earl of Crawford and Balcarres was also elected an Honorary Fellow. This is believed to be the first occasion that a son has followed his father as an Honorary Fellow R.I.B.A. He has inherited his father's love of architecture and the fine arts, a fact which has been well recognized by the Government in appointing him to succeed his father as chairman of the Royal Fine Art Commission.

### Deferment of National Service

Members and students should not fail to study carefully the official notice on this matter, published on page 275. It has been agreed by the Ministry of Labour and National Service after long consultations with the representatives of the Royal Institute. These consultations have been protracted and it has not been possible to say anything about them until final agreement was reached.

### Exhibition at the R.I.B.A.: Timber Research and Building

The spring exhibition at the Royal Institute has been organized by the Forest Products Research Laboratory of the Department of Scientific and Industrial Research in conjunction with the R.I.B.A. Exhibition Committee. It is an exhibition primarily for architects and is intended to draw attention to the essential requirements for the most efficient and economical use of timber today.

With timber in short supply, and likely to remain so for some years, it is necessary to make the very best use of what is available; this exhibition has been specially designed as an informative technical guide towards that objective. It should enable the architect to grasp important points without wading through masses of technical literature, a pursuit for which there is all too little time today. The Director of the Forest Products Research Laboratory is to be congratulated on selecting this method of presenting the information his staff has collected over many years (including recent important work of the war years) to a profession which is overloaded with reading matter.

The scope of the exhibition is, however, by no means limited to practising architects. It should be of immense value to students of architecture and building. It is to be hoped that the heads of schools will arrange collective visits. Members of the staff of the Laboratory will be present to answer questions and if party visits are arranged beforehand with the R.I.B.A. Public Relations Officer, special arrangements for their reception can be made.

The Exhibition will be officially opened by Sir Giles Gilbert Scott, O.M., R.A. [*F*] on Monday 28 April and will be open to the public from Tuesday 29 April to Saturday 10 May. Members should note that the exhibition will be open for a fortnight only and not for a month, as is usual. This is unfortunately due to the present heavy bookings of the Henry Florence Hall.

### Publication of the Annual Report

In conformity with the memorandum on JOURNAL policy, approved by the Council, the Annual Report of the Royal Institute is to be published this year as a separate document and not in the April JOURNAL. It will be sent out to Fellows, Associates and Licentiates with the Council's Nomination List on 21 April.

### Presentation of Royal Gold Medals

The R.I.B.A. General Meeting on Tuesday 15 April when the Royal Gold Medals for the war years are to be presented will be a unique occasion. It is expected that five of the recipients will be present, namely, Mr. W. Curtis Green, Professor Sir Charles Reilly, Mr. Edward Maufe, Professor Sir Patrick Abercrombie and Professor A. E. Richardson. Mr. Frank Lloyd Wright is unfortunately unable to make the journey from the United States and his medal is being sent to him. The medal of Mr. Victor Vesnin was presented to him by the British Press Attaché of the British Embassy in Moscow last year. This meeting at which the Royal Gold Medal is presented is always a ceremonious affair and attended by numerous Honorary Fellows and Honorary Associates, as well as by the most distinguished members of the profession. The meeting on 15 April seems likely to be an outstanding event in the life of the Royal Institute.

### Success of the Danish Exhibition

In spite of the weather in February and of very restricted publicity consequent on the suspension of periodical publication, the exhibition of Danish Domestic Design has been remarkably successful. The average daily attendance of 400 has been greater than that of 'Building Now' while the total of 7,450 is remarkably good for a small exhibition.

The possible reasons for this success are perhaps worth some discussion. 'Britain Can Make It' has no doubt stimulated public interest in industrial domestic design (or fulfilled an existing subconscious yearning towards it) but it seems more probable that exhibitions of furniture and household goods attract because they show people the kind of thing they might have in their own homes. The furnishing of a home is not only a subject of perennial interest,

specially to women, but is to some extent within the direct control of the individual, whereas architecture is much less so. Further, most people are far more attracted by actual objects than by photographs or drawings of them, a fact which to some extent explains why it is so difficult to arouse public interest in the ordinary type of architectural exhibition. Because they are themselves intensely interested in photographs and drawings of architecture, architects are liable to conclude that similar emotions are aroused in the layman, which is not the case. It amounts to this: to stimulate public interest in the possibilities of present-day architecture, nothing is so good as actual buildings.

### President's Message to American Architects

At a recent joint function of the American Institute of Architects and the Architectural League of New York, Mr. G. Grey Wornum [*F*] was the guest of honour. In connection with the function the President sent the following cable:

> The President and Council of the R.I.B.A. send cordial good wishes to the American Institute of Architects and the Architectural League of New York through our distinguished member, Grey Wornum, and look forward to continuance of happy association. SIR LANCELOT KEAY.

### Hemel Hempstead and Crawley New Town Corporations

The Minister of Town and Country Planning has appointed Lord Reith of Stonehaven [*Hon. F*] to be Chairman of the Development Corporation of the new town to be built at Hemel Hempstead. The Minister has also appointed Sir Thomas Bennett [*F*] to be Chairman of the Development Corporation of the new town to be built at Crawley. These appointments will be warmly approved by all architects.

### Ordnance Survey Maps

Crown Copyright in Ordnance Survey maps is vested in the Comptroller of H.M. Stationery Office. Permission to reproduce such maps must be obtained from the Director-General, Ordnance Survey, to whom a royalty is payable for each authorized reproduction. In consequence of negotiations the Director-General has agreed to extend to members of the R.I.B.A. facilities, under a compounding scheme, to reproduce parts of Ordnance Survey maps without prior sanction.

On application a licence will be granted to members at a cost of 5*s.* per annum, or 25*s.* for a period of five years. The licence will cover the reproduction of portions of Ordnance Survey maps of all scales. The reproduction must be by hand tracings made in the member's own office, for professional purposes only, and not for re-sale. The licence does not cover reproductions by mechanical processes or by reproducing firms. The fee will be payable by each practising member so that more than one fee may be payable by some firms. As soon as the application forms are ready they will be distributed to each member with the JOURNAL.

### Lectures on Office Organization

The last of the series will be on *Architects to Public Authorities*. The date is Thursday 27 March at 6.30 p.m. The speakers are Mr. Hubert Bennett [*F*] County Architect West Riding of Yorkshire; Mr. D. E. E. Gibson [*A*] Architect to the City of Coventry; Mr. Kenneth Campbell [*A*], Miners' Welfare Commission. The chairman is Mr. R. H. Matthew [*A*], Chief Architect to the London County Council.

These lecture-discussions have been remarkably successful. They are something of a new form of lecture. The atmosphere is informal; there is no read paper; the expert guest speakers talk rather than lecture; members are liable to 'cut in' with remarks and questions; the discussions are keen, technical and happily free from fulsome congratulations of the chief speakers. This form of lecture-discussion should be noted for future use.

### A.B.S. Collecting Boxes for Architects' Offices

The Architects' Benevolent Society can now supply collecting boxes, for use in architects' offices and departments, for small contributions and spare coins. The Secretary will be glad to send a box to any architect who would like to help the Society's work for the relief of distress among members of the profession. Apply to the Secretary, A.B.S., 66 Portland Place, W.1.

### Medals for Housing Schemes

In his Sessional Paper on 'Housing and the Architect', read at the R.I.B.A. on 11 March, Mr. J. H. Forshaw [*F*], Chief Architect to the Ministry of Health, announced the institution by the Minister of Health of a scheme of medals to encourage good design in housing.

Mr. Forshaw said: 'To stimulate the interest of the public and of housing committee's in particular, the Minister intends to recognize the merit of individual schemes, by the annual award of Housing Medals to the local authority and to the architect concerned. It is suggested that a competition should be organized by the Royal Institute on behalf of the Ministry of Health, through a small representative committee of architects and lay members. The scheme would give prominence to the importance the Minister attaches to good design and would also encourage authorities to emulate the best schemes, thereby creating a tendency towards general improvement. The educational value also would be considerable, more particularly perhaps for children living on the estate'.

This proposal is a sign—if one were wanted—of the present Minister of Health's determination that British housing shall be of the highest standards of quality and that he is not to be beguiled into sacrificing quality for mere numbers of dwellings. Mr. Forshaw's paper, which drew a crowded attendance in the Henry Jarvis Hall, indeed was based on that conception, though he explained that not only quality but quantity *and* at economic prices must be achieved. A full report of Mr. Forshaw's paper, and the discussion which followed, will be published in the next JOURNAL. The Minister's own views are given in his recent speech to the R.I.B.A. Council reported on pages 267-8 of this number.

### The Institute:—Easter Holidays, 1947

The Royal Institute premises, offices and library will be closed from Friday 4 April to Monday 7 April 1947 inclusive.

### Secretary, R.I.B.A.

The Hampshire and Isle of Wight Architectural Association have elected Mr. C. D. Spragg, Secretary, R.I.B.A., an Hon. Member of the Association.

### On the Cover

The photograph on the cover of this JOURNAL is by Mr. R. Fitzmaurice [*Hon. A*] and is of the Bridge at Sospel, Alpes Maritimes While many members know Mr. Fitzmaurice as Deputy Chief Scientific Adviser to the Ministry of Works, few know that he is also a keen amateur photographer.

### R.I.B.A. Diary

THURSDAY 27 MARCH 6.30 P.M. Lecture Discussion. '*Office Organization; Architects to Public Authorities*'. Speakers: Hubert Bennett [*F*], D. E. E. Gibson [*A*] and Kenneth Campbell [*A*]. *Chairman*, R. H. Mathew [*A*].

WEDNESDAY 2 APRIL 6 P.M. A.S.B. Lecture. '*Shell Concrete*' by Frederick S. Snow, M.Inst.C.E., M.I.Struct.E., M.Soc.C.E. (France); joint meeting with the Institution of Structural Engineers.

TUESDAY 15 APRIL. General Meeting. Presentation of Royal Gold Medals for the war years.

MONDAY 5 MAY. Annual General Meeting.

WEDNESDAY 7 MAY. A.S.B. Lecture. '*The Use of Aluminium Alloys*' by Dr. E. G. West, B.Sc., of the Aluminium Development Association.

# Housing: Planning for Amenity

## By Edward Armstrong [*F*]

Read before the Royal Institute of British Architects

25 February 1947. Mr. C. G. Stillman, Vice-President, in the chair

IT IS THE intention of this paper to enumerate some of the day-to-day considerations that arise in the planning of urban dwellings under the Housing Acts. It will discuss the variations in plan form that may result from considerations of aspect and orientation, from the adoption of alternative methods of space and water heating and from the advent of the subsidized passenger lift. It will refer to questions of refuse disposal and clothes washing, to the provision of club rooms, hobby workshops and similar amenities, and will suggest some solutions.

What I have to say is intended to be in no sense authoritative, though it will be necessary to touch upon some very familiar general principles. My remarks will apply more particularly to the kind of densities envisaged in the London Plan, where land is costly and space limited, e.g., those net residential densities which range from 100 to 200 persons per acre. As we know, in the lower of these densities it may be possible to plan some 50 per cent of the dwelling units as houses detached, semi-detached or in terraces, depending on the shape and nature of the site. The remainder will be in flats or superimposed maisonnettes.

At 150 persons to the acre, the opportunity for houses will be tending to disappear if open space is to be adequate, and at the higher density all dwellings will be superimposed in multi-storey buildings which may range from three to say ten storeys in height. Few architects in private practice have yet had the opportunity of planning whole neighbourhoods with their additional recommended allowance of public open space (4 acres per 1,000 population) and their complementary schools and shopping facilities and the rest. Nor will such opportunities be frequent or perhaps possible in most metropolitan areas.

The more usual task that may come the architect's way will be the replanning of three or four, or perhaps 10, or 15, or 20 acres. His problem will be how to make the most logical and enlightened use of this relatively small clearing in the jungle of buildings which surrounds his area. If he has faith, he may hope that his clearing will be so located as eventually to link up with others to form an orderly and fertile pattern wherein a healthier and more natural mode of life may be cultivated.

The thought that the designer must always keep clearly before him is that he is in a very real sense the trustee for the eventual tenant. He is building, first and foremost, to provide homes for a section of the people who can have no direct say in the type of dwelling they will occupy. It is his job therefore to ensure that he produces dwellings which are homes in a real sense—that they are comfortable and convenient, and that they have some individuality, a human scale and such architectural merit as considerations of economy will allow.

The official client will, in almost all cases, be the Local Authority for the area, or occasionally one of the privately constituted housing societies whose work in the past has done so much to raise the general standard of workers' dwellings. It may be thought here that a great part of the architect's task in the matter would be convincing his Housing Committee of the need for the amenities he personally has at heart. Before the war it is true to say that this was often the case. My personal experience today is that quite a number of committee members are alive to the recommendations of the Housing Manual and the Scottish Housing Advisory Committee's report and so on, and against that background are inclined to be fertile of suggestions for further amenities.

With eventual loan sanction in mind the architect therefore has sometimes to play the part of the hard-headed realist, particularly when these proposals take the form of the installation of non-essential gadgets—an aftermath of the undigested lessons of the Portal house. Of all amenities, space is without question the one which is most valuable, and the architect's principal function is to make the fullest use of the space limits which may be set from time to time by higher authority.

I should like to turn now to some of the more concrete considerations that arise. As is inevitable when a whole country is faced with the task of re-housing its people, a somewhat arbitrary ratio tends to emerge in relation to the proportions to be observed between dwellings for family units of the various sizes. To take a pre-war example, it seemed to be the general policy in London at that time to build about 50 per cent of the new dwellings in the form of 2-bedroom units, while the remaining 50 per cent was split in an apparently preconceived proportion between small and larger dwellings.

Today, predominance of the 2-bedroom unit has given way to the predominance of the 3-bedroom unit, whether it may be a house, flat or maisonnette. The essence of any development is that these ratios should be proportioned on the closest available forecast of the actual needs of the district, and the architect would expect his instructions in this respect to vary more than they do, between one development scheme and another.

### Lay-out

Let us assume now that the architect has particulars of his site, and of the population cross-section for which he has to plan. Density in terms of persons per acre is laid down by the Town Planning Authority concerned. His next considerations are sunlight, fresh air and open space. These in turn raise the questions of orientation and height of buildings within the limits in which they may be controlled by the shape of the site, the type and height of the surrounding property, outlook to one side or the other, proximity of access roads, shopping centres, or sources of noise such as factories, main traffic routes, railways or shunting yards.

It is necessary that as far as possible, windows of all habitable rooms should have direct sunshine at some period of the day. Considered *in vacuo* there is no argument but that terraces of houses and blocks of flats, or maisonnettes, should have their main axes generally in a north-south direction. For preference, bedrooms and kitchens should be placed on the east side for the morning sun, and living rooms on the west side for the afternoon sun.

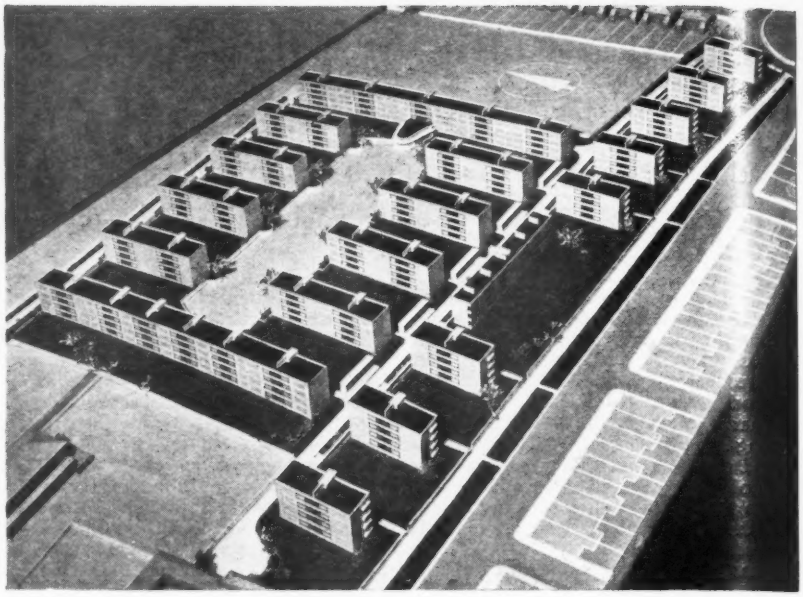
There is nothing new in this principle, and its adoption is becoming general. It should, however, be realized as with all theoretically right solutions that the principle can be carried too far, and may result in a rather crushing monotony. This regimentation was obvious from aerial views of some of the big pre-war German housing estates, where theory was made to over-rule a more human adjustment. Such layouts are in danger of resulting in long level skylines somewhat sobering to the spirit of a housewife who may have many hours to spend near her kitchen window.

There is a danger, particularly on smaller sites, for the architect to create an architectural opportunity for himself by treating the whole as one impressive range of buildings and thereby lose sight of the human scale which should impermeate the design throughout. Larger sites are generally easier to handle in this respect and less subject to this temptation. They allow greater freedom for the disposition of shorter groups, or blocks of buildings, and greater opportunity for architectural diversity both in plan and elevation by the introduction of buildings of varied heights. They allow a greater articulation of open spaces, and opportunities for the introduction of adequate playgrounds. These are preferably allocated opposite the ends, rather than the flanks of the buildings, so that the hearty enjoyment of games does not disturb the quieter tenants.

Generally speaking, upon such sites it is possible with careful planning, to provide houses for the larger families with their own small gardens, blocks of flats or maisonnettes of three or four floors for families of medium size. The tall buildings may be reserved for childless or adult families of which the proportion is sometimes surprisingly high. Nor should the needs of single old persons be forgotten.

One of the objections to flats or similar multi-storey buildings, is that the tenant

Three-storey block at Lidingo, Stockholm. See site plan on opposite page.



The north-south axis principle taken about as far as it should go.

shares an entrance in common with many others. This objection might be lessened, particularly in blocks of three or four floors in height, by treating the elevations in a way that may express not only the domestic character of the building, but the fact that it is composed of a series of quite small groups of say six or eight dwellings. If each group can be thus distinguished on the façade and have its own entrance door, the sense of domesticity is maintained. This treatment is, of course, not applicable to high blocks or blocks so planned that a large number of dwellings occur at each floor level.

**Fences and Railings**

I should like to say a word here about fences and railings, and the effect they have upon the segregation of state-aided dwellings. We hope that the state will soon assist in the provision of dwellings available to all classes of labour, professional and clerical, as well as manual. The need is urgent, and there should be no disinclination to occupy dwellings, the cost of which is subsidized out of our own pockets. I am certain, however, that nothing would so militate against the success of any mixed development as that it should be fenced off with railings. One cannot help being struck in visiting cities such as Stockholm and Copenhagen, with the fact that many of the state or municipally-aided developments are planned as part of the surrounding urban street pattern. They are not railed off from it, except in cases where main traffic routes traverse the area.

The argument against the omission of railings which at one time surrounded each grass plot within the estate, was that without this protection the grassed areas would soon be bald patches of soil or mud. The solution is to provide both children and adults with their own centres of recreation, so equipped as to meet their needs of adventure and relaxation respectively.

**Types of Dwelling Unit**

Where space allows, it is commonly agreed that the house with its own garden is the most suitable dwelling for a larger family, particularly where there are growing children. Properly planned to intelligent standards on two, or even three floors according to accommodation, and used in terraces as recommended by the authors of the London Plan, there is with sensitive design, every opportunity to recapture that spirit of urban grace which marks the best periods of our architecture in this country. It is seldom, however, that the small site will allow much opportunity for the use of houses, even in the medium density areas. The problem is very largely one of deciding upon the use of one or two, or several of the alternate plan forms, into which the accommodation tends to fall. By this I mean flats, or superimposed maisonnettes. These, though more expensive to construct than houses of similar accommodation, are considerably more economical of space. Of the two, flats are generally simpler to plan and give a smaller cube, and are on that account of most general adoption.

Flats fall into several well-known types which vary principally according to the type of access. The most common are : (*a*) *The balcony access type* served from a horizontal external balcony at each floor level. (*b*) *The direct access twin type* where two flats per floor are planned right and left of a staircase, individual to themselves. (*c*) *The direct access multiple type* where three or more flats are served at each level, and (*d*) *The internal corridor type* where the flats are planned on either side of a central corridor as are the apartments in a hotel.

Of these variations there is no question that the twin-flat has all the advantages of sunlight, through ventilation and comparative privacy. This type is most favoured on the Continent; Switzerland particularly provides excellent examples. It has been much developed in this country in recent years.

The multiple direct access type, three or four, or even more to a stair, may gain by economy of external walling and grouping of services, but progressively loses its amenity advantages as the number of flats round each landing multiplies.

The balcony access type which is suitable for one- and two-room flatlets, has strong claims on the score of simple planning and economical building. It normally has few other virtues, and should in general only be used where the site considerations necessitate that a block must run east to west. The 'free' side of the building in this case naturally faces south.

The internal corridor type although much used in the planning of luxury residential flats in the West-end before the war, is quite unsuitable for human habitation without some costly form of artificial ventilation, though at Mayfair rentals is highly profitable to the speculator. With suitable planning in short blocks with wide, ventilated corridors, glazed at each end, it is, however, applicable to the planning of one-room flatlets of the hostel type.

**Advent of the Subsidized Lift**

Next to the significant improvements in dwelling space standards which owe their origin to the recommendations of the Dudley Committee and their firm implementation to the present Minister of Health, possibly the greatest amenity advance since the termination of the pre-war slum clearance campaign, is inherent in Part III of the First Schedule of the Housing Act, 1946. Here for the first time are established Exchequer and Rate contributions which are designed to allow for the provision of passenger lifts in buildings over three floors in height. This is a factor which is likely to have the strongest effect upon determining the frequency with which

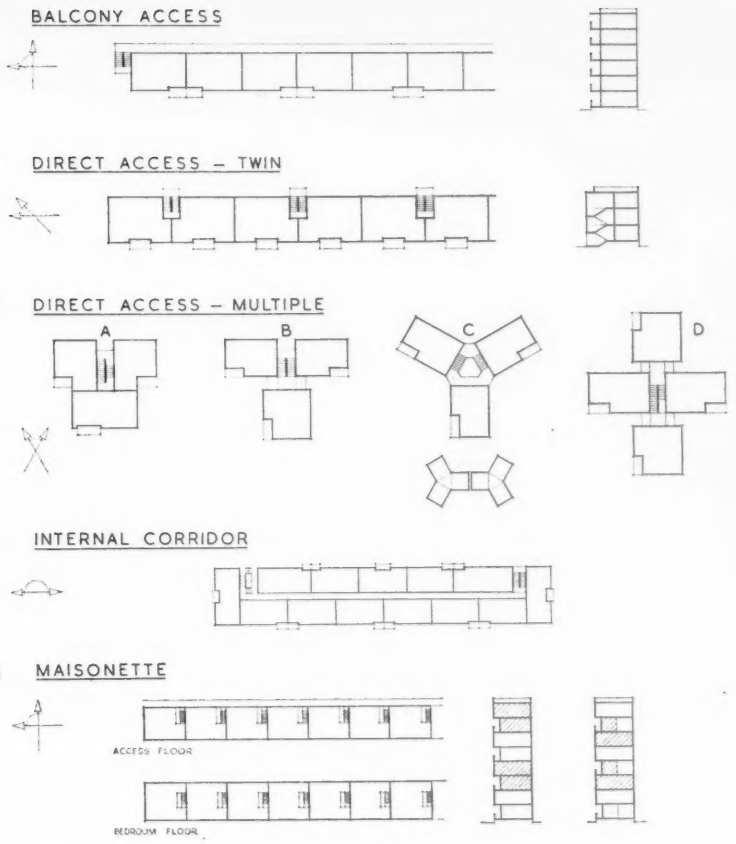
Large suburban layout at Lidingo, Stockholm, showing free disposition and use of blocks of various heights. Architects: Anker, Gate and Lindgren

one or other of these main plan forms is used in practice, and upon its detail planning.

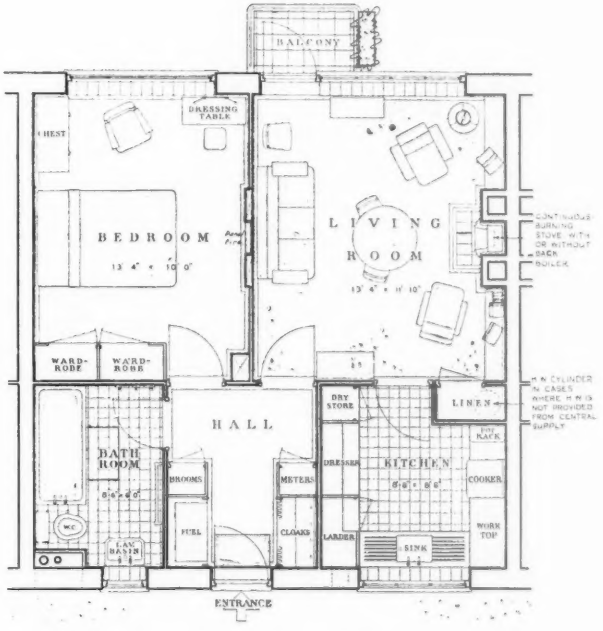
In structural costs, a block containing five floors is the most economical to build, and it was the general practice before the war to adopt this unit. These five floors at the same time represented about the limit of human endurance in stair climbing. It will be seen at once that the greater the number of flats that can be served by the same lift, and subsidized in respect of it, the more attractive does the subsidy become.

It is probable that unless the Minister declares a limit to the number of dwellings per lift, there will be a strong inducement to use those plan forms which in other respects have the fewer advantages. In other words, one may expect to see the adoption of balcony or multiple access planning for buildings over three floors in height, in preference to the twin-flat type with its acknowledged superior virtues. This tendency is already evident in some of the new development plans.

I suggest that the balcony access type when used should be limited in length to six or eight units of the one- and two-room type, or to say four units in length of the three- or four-room type, so planned that in no case do habitable rooms overlook




The main plan types for multiple-storey buildings.




A 2-room dwelling suitable for balcony access planning.

the access balconies. Structural costs rise steeply much above six or seven floors and economics will tend to limit heights to around eight floors, or less.

The multiple direct access type, preferably limited to three units per landing would be suitable for tall buildings were it not for the by-law requiring alternate means of escape from flats more than 42 ft. above ground level. This difficulty may be overcome by planning such buildings in pairs and connecting their vertical circulations at each level above this height. The intermediate flats would suffer however. Multiple planning will probably be restricted to blocks of medium height.

I think we are likely to see a considerable experimentation in the planning of superimposed maisonnettes which, in terms of lift economy have the advantage of the balcony access method. They reduce the number of lift stops, and make it possible to plan units each of several rooms with the minimum of over-shadowing from the balconies which would occur at intervals of two or three floors.

A number of ingenious solutions of this kind on the 'duplex' principle have appeared from time to time in the past, but in relation to dwellings of a more or less luxury character, where the living room passed through one-and-a-half to two floors in height. As previously mentioned, maisonnettes tend to be somewhat uneconomical in cube owing to the necessity for individual internal staircases.

### The Dwelling Unit

I shall not attempt an analysis of the detailed planning of the individual dwelling unit. This is a subject in itself. It can be said that every site will impose conditions which will effect the scheme through all its details The need for built-in cupboards and convenient kitchen equipment is today acknowledged and has received much attention. Where rooms are not unlimited in size, it is worth remembering that a squarish shape increases the sense of space and allows greater freedom in the arrangement of furniture. Windows should be ample, but more use might be made of glazed doors between living room and hall which add to the sense of space and brighten the interior. Flats on upper floors should always be provided with their own private balconies with a sunny aspect. Balconies less than 40 ft. in area are of little use.

### Hot Water and Space Heating

Of the influences which make for civilized living, the provision of a ready supply of hot water is most important. It was not many years since the existence of a hot water standpipe in the yard was considered a reasonable provision. Between the wars, it was usual to equip each dwelling with a hot water system of its own, heat being provided through the medium of a kitchen range with back boiler, a living room fire with back boiler, or by means of a small coke-fired boiler of the Ideal type. The first two methods entailed either cooking by coal or the running of a coal fire in the living room through the summer months. The general introduction of the gas or electric cooker put an end to the first method, and the disadvantages of the second were sometimes overcome by the introduction of an electric immersion heater in the cylinder for summer use.

Twin-flat type showing advantages, namely, day-zone and night-zone, front and back doors, utility room and central heating.

The adoption of the individual coke boiler had some advantages in that it did not to the same extent interfere with the arrangement of the rooms within a dwelling, and the Ideal boiler formed a convenient destructor for household refuse. Improved solid fuel appliances such as the Fulham coke grate with back boiler, used in conjunction with an immersion heater for summer use, give good results. This is a type of installation which is being widely adopted by the London County Council.

The adoption of any one system tends to result in a plan form of its own, owing to the need for short primary circulation and pipe runs. Where such considerations are allowed to predominate, other advantages suffer, and it is usually found that the living room back boiler principle results in a flat plan in which the living room and kitchen are furthest from the entrance door. The result is that the night use, or bedroom zone, is nearest to the point of entry. From the housewife's point of view, and from the point of view of the sleeping child, this is a distinct fault.

Other individual systems of water heating which have the advantage of allowing greater freedom of planning, depend on the use of instantaneous gas water heaters, or the modern electric storage water heater which can be neatly fitted under the sink bench. Their economy depends very largely upon the rate at which the supply undertakings see fit to make their charges.

### Central Systems

In recent months, very significant changes have been taking place in the minds of technicians, towards this question of hot water supply, and the complementary problem of space heating in relation to state-aided housing. These changes have taken place largely as a result of the Report on 'Domestic Fuel Policy', prepared by the Fuel and Power Advisory Council under the Chairmanship of Sir Ernest Simon—also, by the further data on fuel conservation which was brought forward at the recent national fuel conference.

This evidence, and still more recent events, all point to the fact that the present national fuel stringency is likely to continue to be a serious factor in our national economy. It is one which necessitates that our fuel supplies should be converted into heat only in the most efficient appliances available. At opposite ends of the efficiency scale, we have the domestic open fire working at about 20 per cent efficiency, and the central boiler plant installations working at something like 80 per cent efficiency. The logical answer would appear to be the adoption of a central system of hot water supply for every development which may prove large enough to carry it. There is nothing new in this idea except in its application to state-aided housing.

### Heating

Once the installation of a central hot water plant has been decided upon, or is proved practicable, it is found that such extensions as are necessary to provide a measure of central heating are relatively small in first cost. The same boiler house and pipe ducts serve, and against the cost of the additional equipment may be off-set the cost of the redundant fireplaces, chimney stacks and fuel stores, the omission of which saves space and further reduces building cost.

As an example of spending money to the best advantage, it may be interesting to recount that I was recently instructed by a local authority to include for the provision of electric fuel hoists, whereby fuel could be delivered to the several floor levels of a series of blocks. Eleven such hoists were required and upon preparing our preliminary estimates, I was struck by the fact that the installation costs of these hoists, including builder's work, would

Two examples of multiple access plans from Stockholm.

more than cover the cost of expanding the central hot water plant to provide central heating. In addition, further savings resulted consequent upon the omission of chimney stacks and fuel stores.

In considering the adoption of such methods of water and space heating, it should be remembered that the tenant has not the choice of donning his overcoat and shedding his fuel bill. It is therefore necessary to investigate any development at an early stage, in order to ensure that the sum represented by installation and amortization charges, and running costs, in terms of pence per week per dwelling, does not overload the rental.

### Laundries

The provision of suitable clothes-washing facilities is always worth careful consideration, and with efficient equipment, the housewife's task can be lightened enormously. The choice lies between the provision of a fitted estate laundry, or the provision within the flat of suitable equipment. The estate laundry has the following advantages. The building owner is concerned with the upkeep of a small number of comparatively expensive and efficient fittings, as against the maintenance of a large number of less efficient ones. The housewife's task is lightened by the existence of facilities which it would be quite uneconomic to install in each flat. These are, for example, a water softening plant, electric washing machines, mechanically-operated dryers, and an ironing room with rotary and hand-operated electric or gas irons as required.

It is important that a domestic scale should be maintained in this building. There should be no suggestion of the mass production factory. Lighting should be good and colours cheerful. The washing section should be divided into cubicles for privacy, each with its own window. Each cubicle will allow of some 20 users per five-day week, so that a dozen cubicles will serve about 240 dwellings.

The estate laundry has some disadvantages, however, in that the housewife has to do her washing at certain pre-arranged times, which may be an inconvenience if she has small children. She will, in any case, wash the baby linen in the flat and may well prefer a suitably equipped bathroom, or her own utility room, even although the unsoftened water supply may entail the boiling of clothes.

### Refuse Disposal

This is one of the knottiest problems that faces the local authority and its architect.

**Water-borne:** It would certainly appear that some form of water-borne refuse disposal should provide the most satisfactory answer. We have all heard of the Garchey system which provides a specially designed kitchen sink with a large orifice and a trapped chamber below of sufficient diameter to carry away refuse to a central settling tank from which the solid matter is extracted and consumed in a furnace. Whether in fact the dried refuse has any calorific value—as has been claimed for it—as furnace fuel, is another matter. It is interesting to learn that a well-known English firm has now acquired the rights to manufacture the Garchey equipment in this country. It may be that English manufacturers will find some means of improving upon the original designs. At present, in my opinion, there appear to be objections to the Garchey system as we know it.

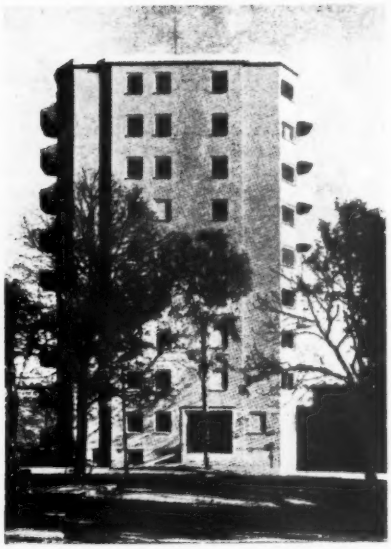
First on the score of cost, it is doubtful whether it is economically applicable to an average-sized housing development of say 150 dwellings. The cost of equipment, could of course be considerably reduced by installing a somewhat differently designed Garchey receptacle with a flushing system in each group of dwellings, for example, one at each landing level, rather than one to each individual kitchen. This would incidentally reduce the architect's problem of disposing of a number of ponderous large diameter waste stacks within his plan.

There are, however, other imperfections not so easily overcome. For example, the upper surface of the flushing chamber immediately below the sink is difficult to clean and is liable to accumulate a greasy deposit. To my mind, the idea of washing one's cooking and eating utensils in a receptacle which must see the passage of a good deal of very unpleasant refuse, does not appeal.

If this equipment is to be of the most immediate convenience to the housewife, it is obviously best placed in the kitchen, but I should imagine the convenience would be further enhanced were the refuse hopper distinct and separate from, but near, the sink, the normal use of which must otherwise be frequently interrupted by the disposal of garbage. These remarks are intended to be in no way any condemnation of the Garchey system, which I am sure has a big future, particularly if some of the objections can be ironed out. It is, however, as well not to be blind to such imperfections as may exist at present.

I was very interested recently to see the drawings for a prototype water-borne system somewhat on the general principles of the Garchey system, but under design by an English firm. This contains a flushing hopper specially designed for immediate inspection and very easy cleaning. At the disposal plant, an automatic and continuously acting extractor feeds direct into the incinerator. Under present conditions, of course, it is impossible to say when this equipment may be in production.

**Dust chutes:** We are all familiar with the very commonly adopted dust chute with a self-closing hopper at each floor level discharging at ground level into a tiled chamber containing a removable refuse bin or trolly. On



A typical tall block resulting from Swedish multiple access planning.

the whole, these chutes work very satisfactorily if properly designed. Theyshould be in no case less than 12 in. internal diameter, preferably 15 in. They are best formed of glazed socketed earthenware drain pipes which should be open at roof level for ventilation. If tenants could be relied upon to wrap up their garbage before discharge, there would be very little fouling of the tube, but it is not possible to rely on such consideration. Some local authorities are inclined to ask that their refuse chutes should be fitted with water sprays at the top for washing down. This is an impracticable suggestion, and far less fouling will take place in a dry chute than one which is periodically wetted.

The chute system is in almost universal use in Denmark and Sweden. There, in place of the rather rough and ready article which we know as the self-closing hopper, is used a stainless steel hinged disc, fitted with a rubber ring and lever locking device which ensures a sealed opening. The chute invariably discharges at basement level, sometimes direct to an incinerator. In any case, the chamber is completely cut off from the dwellings above. The chute with its sealed openings is generally planned on the inner wall of the staircase, and the problem of providing a decent entrance to the dwellings is therefore not complicated by the difficulty of fitting in a refuse chamber at, or near, the main entrance to the staircase or lift well.

**Manual disposal:** With the advent of the subsidized lift, there arises the possibility of a morning collection of suitable refuse containers at each floor level, and their transport by lift to an incinerator or disposal point. This method is in common use in higher-class residential flats, but it also has objections, one of which is again the need for salaried porters. The wages of salaried attendants is one of those factors which in terms of pence per dwelling per week shows up surprisingly as a charge on rental. I should welcome ideas on this subject.

**Recreational Amenities**

As this paper is intended to deal with the provision of amenities, it would not be complete without some reference to the subject of recreation. This may be considered from the point of view of the juvenile and the adult whose needs, while similar in terms of living accommodation, tend to divide when it comes to the matter of relaxation.

**Children:** I spoke earlier of the need for providing centres of interest in the form of playgrounds for children. I am pretty sure that wherever an estate is provided with a generous playground adequately equipped with swings, see-saws, merry-go-rounds, etc., it will be found that the children's tendency to damage lawns and trees is surprisingly little in evidence, and that the need to protect green spaces with railings does not exist. I think we proved this quite conclusively on a development which was carried out for the Guinness Trust before the war, where the grassed areas were protected by nothing more formidable than a 4-in. curb. A chain link fence round the playground itself is a convenience to the children to prevent the loss of balls when playing games, and is appreciated as such. A suitable shelter open to the playground, preferably at the north or east to cut off cold winds, is an advantage in wet or cold weather.

Where space allows, there is wisdom in providing, in addition, a playground for the smaller children and infants. This can, with advantage, be arranged as a slightly raised terrace in the form of an open-air extension to a nursery room. Here mothers can leave their children in the care of an attendant while shopping or attending to other duties. The nursery room, which should be protected on the north and east, should be suitably heated, and if possible provided with a small milk bar. There should also be an ablution room.

**Adults:** It is difficult to say how large an estate need be before it is necessary to provide a recreational centre for the more adult tenants, or how small it need be in order to render such a provision unnecessary. Let us rather consider what kind of provision might with advantage be made for an estate of, say, 1,200 people and upwards. I suggest that the first need is for a club room of a size capable of seating, say, one-sixth of the population. This should be a general purpose room. It should have a small stage and dressing rooms for amateur theatricals, etc. It should also have a good floor suitable for dancing. There should be a small tea buffet. A chair store should also be provided capable of storing the requisite number of chairs for concerts, etc., card tables for whist drives, ping-pong tables, dart boards, and so on. A small cinematograph projection room for 16 mm. film would be appreciated.

This club room should be well lit, centrally heated in winter, and of cheerful aspect with a pleasant outlook over green spaces. It should be open to the tenants daily, and they should be encouraged to form their own committee to run it according to their needs. It has been found that a good deal of use will be made of such a room by women in the afternoon, after the main household duties are over. It is a place where they can take their knitting, meet their friends and gossip over a cup of tea. A suitable cupboard containing bookshelves might be provided in order to form the nucleus of a small library.

**Hobby Workshops:** Depending on the size of the estate, the provision of one or more small workshops in which hobbies could be pursued, boots and bicycles mended, etc., would be appreciated. These should be conveniently located about the estate, but so placed that those using them could hammer away to their heart's content without the fear of complaints from neighbours. Large developments might allow the provision of such further amenities as tennis courts and bowling greens, but it should be remembered that the former take up considerable space, and unless in grass are not beautiful to look at.

I have been talking already over long. As will be appreciated, personal opinion is the only justification for much that I have had to say, and what remains of fact is already very common knowledge to my fellow architects. If, however, this paper has succeeded in indicating to others amongst you that the planning of homes under the Housing Acts can be a rather fascinating and worthwhile job, it will have achieved a purpose.

## DISCUSSION

**Sir Alexander Campbell:** I am a relative layman in matters architectural, and I do not propose to raise any point in regard to Mr. Armstrong's paper or to initiate any discussion about any topic on which he has touched, but I think we all agree that he has given us a very masterful sketch of a very complex topic, a topic which is only a section of the vast field with which the modern architect is concerned. As a layman, I have been impressed by the fact that the masses of the urban dwellers of tomorrow are going to be given beautiful homes as compared with the caves in cliffs of brick and the back-to-back hutches which so many of them have endured in the past.

I would not seek to minimize the gravity of the position of this country at the moment or of the problems that confront us, but I think you will agree with me that at breakfast time, day in and day out, our withers are wrung by the members of the Press and platform. To me it is a very agreeable thing on an evening such as this to have my withers—and, I hope, your withers—unwrung by the tale that Mr. Armstrong has unfolded, a tale of hope and recovery for the future. After all, the people of this country, when you have said all you can for them and against them, remain the salt of the earth, and, in their delivery from the burdens of their sacrifices for the benefit of, I regret

to say, a most ungrateful world, their housing is going to play a very significant part. I hope that their delivery will come soon and that the housing problems that confront us will be solved on the lines which have been indicated by Mr. Armstrong.

I will try to spare Mr. Armstrong's blushes, but I happen to know a little about his far-flung work throughout the world. He has left his mark, as probably some of you know, in New Zealand and in Burma, where he planned and designed a college for teachers, in the University of Rangoon, which was known in Burma and throughout the Far East as a superb composition of its kind.

Many of you know more about Mr. Armstrong's work since he came back to the United Kingdom, and you know what he has been doing in and around London, where I am told that he has been doing superb work. To me, personally, it is very gratifying to know that, despite war experiences that might well have crippled him completely, Mr. Armstrong still manifests that wide grasp of principle and detail and still has that capacity for imaginative and realistic planning which I knew him to possess in the old days.

I have great pleasure in moving a vote of thanks to Mr. Armstrong for his very interesting and instructive address to us this evening.

**Mr. P. L. Leigh-Breese,** Secretary of the Guinness Trust: I should like to join sincerely with Sir Alexander in saying how rejoiced we are to know that Mr. Armstrong has so completely recovered from the tragedy which very nearly took him from us.

Mr. Armstrong described me to someone not very long ago as one of his best clients, and in that respect I should explain that, as Secretary of the Guinness Trust, I have the honour, for my sins and for a completely inadequate salary, of managing some 3,600 dwellings on 12 estates in this city of London. I think, therefore, it might be helpful if I amplified some of the statements made in the paper.

First, on the subject of laundries. I have made very careful enquiries among my tenants and I find that, on the whole, they prefer to do their laundry in their flats and to dry it outside rather than to have a communal laundry. They tell me that they all want to wash on a Monday morning and the washing probably takes them an hour and a half to two hours. It may be that I do not give them sufficient appliances in the communal laundry (if that is so, blame my architect and not me, for I am only the man who pays the bill) and that if they had a good communal laundry they would prefer to do their washing there rather than in their own flats.

On the question of refuse disposal, our experience during the last 57 years had led us to the conclusion that, at any rate up to the war, it was not possible to improve on a good dust chute. It should be, of course, smooth-faced and should have a self-closing hopper, and it is important that it should be able to be shut off when the portable container is being removed. In one of our earlier buildings that was not the case, and a milk bottle coming down five floors can be very unpleasant.

An English example of multiple access planning: 3 flats per stair.

With regard to the Garchey system, I was in Leeds only a fortnight ago and the Deputy City Architect then confirmed what Mr. Armstrong has said, that at the present time it is not really economical on smaller estates than the Quarry Hill estate in Leeds, which, as you probably know, has over 900 flats.

Mr. Armstrong indicated that possibly a little guidance on figures might not come amiss, and, as we have just completed in my office our 1946 costs and statistics over all our estates, I will give you some figures, as they may interest you. I ought to add that they have not yet been put before my Trustees (that will be done next week), but, as I am not a Civil Servant and this is not a Government White Paper, that does not matter very much. It was interesting to find that the average charges on the gross rental were as follows: rates accounted for 25.78 per cent, water 3.17 per cent, lighting 1.24 per cent, insurance 0.16 per cent, repairs 11.92 per cent, wages (cleaning, rent collection, etc.) 18.58 per cent, lost through empty flats 0.56 per cent, irrecoverable and outstanding arrears 0.00 per cent (I am very proud of the fact that we have no outstanding arrears in 3,160 tenancies), and establishment charges 7.54 per cent. That makes a total of 68.95 per cent, but of that 28.95 per cent represents the rates and the water rate included in the gross rental and collected from the tenants by us on behalf of the local authorities. Therefore it is true to say that our working expenses amount to exactly 40 per cent of the gross rental. It must not be thought, however, that we make a large profit. We do not, because by the time we have made provision for the interest charges, sinking fund, and so on, we are left with 1.99 per cent net return on the actual cost of the buildings.

On the question of recreation, I agree with all that Mr. Armstrong said. I will not say that I told him many of the things that he told you (that would not be quite fair), but many of them are things that we have actually tried out and proved; they are not simply Utopian theories. I was very glad that Mr. Armstrong referred throughout to the 'club room' and avoided the horrible description 'community centre'. That may sound a small point, but, believe me, it is not. When we talk to our tenants about a club it is pleasant to see them smiling and understanding at once what we are talking about. If we mention the expression 'community centre' they look at us out of the corner of an eye as if it was another invention of, as they say, 'one of them blokes what don't know'. Our club includes the estate workshop, the boiler room, the drying room, the estate office and the coal and coke stores. The tenants look upon the whole of the management of the estate, grouped in that way, as part of the club, and that has a very big effect indeed in helping them to feel

that they are part and parcel of the management.

I would only say, in conclusion, that it has given me great pleasure to be here this evening and that I regard it as a very great privilege indeed for a layman to be asked to second this vote of thanks to Mr. Armstrong.

**Miss Olive Matthews:** I do not agree with Mr. Armstrong's statement that the number of cupboards required in flats is now fully understood. His plans have plenty of cupboards, but I have seen recent plans which are very deficient in cupboards.

**Mr. Armstrong:** I agree that we do not always see as many cupboards in flats as there should be. I think that every flat should have in the passage, lobby or hall, a cloaks recess or cupboard, a linen cupboard (preferably heated), a brooms cupboard and a spare cupboard for such boxes as are left over when one unpacks. The kitchen should contain a larder, dresser, a place for vegetables, a dry store, and as many spare shelves as possible for those bottles of preserves that we used to see once upon a time. A cupboard in the bathroom for shaving gear, medicine bottles, and so on, is an asset, of course, but we have to remember in housing work that we are paying for it out of our own pockets and a line has to be drawn somewhere, even with present-day subsidies.

**Mr. G. B. Oddie** [*A*]: I should like to ask whether Mr. Armstrong says that the shape of rooms in flats should be square or squarish because he thinks that is the best shape for a room as a room or because it is the best shape that can be provided with the area at one's disposal. I noticed that in a number of the plans which Mr. Armstrong showed on the screen the living room had its main axis at right angles to the main direction of the block, which means that in a rectangular room the depth of the room from the window would probably be about 15 ft. or even more.

**Mr. Armstrong:** I would say, first, that no plan is perfect, and, secondly, that the various rooms in any dwelling should be planned round the furniture which will probably be used in them. As far as bedrooms are concerned, it is the policy today to build-in wardrobes, but it is arguable that in at least one bedroom in a dwelling a wardrobe should be omitted, because the tenant will probably have some family heirloom of his own.

I agree that some of the slides showed living rooms end on to the external wall, but that is not the best plan. It is better that the long wall of the room should be to the window, so that the window area can be extensive, but I would say this, that where the room area is necessarily restricted, as it is under the local Acts, a squarish shape in general is more easy to arrange furniture in and gives one an opportunity to arrange the furniture in different ways if one wishes to change the scene a little. As I have said, I think that the long flank should be to the window if possible, but, in the planning of working-class dwellings in particular, there are a number of hopelessly conflicting factors and every plan is a compromise.

The charm of open planning and domestic scale. Taken from the recent Swiss Exhibition. Architects: Sauter and Dirler, Zurich.

**Mr. Edwin Williams** [*F*]: In expressing my appreciation of the paper, I should like to say how refreshing it is to hear once again someone who knows his subject so well in principle and in detail and is himself such a fine exponent of the art about which he speaks. The subject, however, is a very vast one, and the comprehensiveness of the paper has caused Mr. Armstrong to dwell very lightly on the more controversial aspects.

If all the architects who have produced municipal housing schemes and subsidized housing schemes were as thoughtful in detail and in principle as Mr. Armstrong, the controlling authorities would have very little trouble indeed over the passing of housing plans. The point I should like to make is that Mr. Armstrong has dealt with the various aspects of the subject as if they were quite easy to deal with and naturally fitted into their places, but one must not be beguiled into thinking that it is easy to produce the fine results which Mr. Armstrong has produced.

Mr. Leigh-Breese raised one point on which Mr. Armstrong did not dwell very much in his paper, namely, the arithmetical side of the subject. That may be just one of those aspects of the subject which Mr. Armstrong takes for granted are known by other people as well as he knows them himself. The part which arithmetic plays in housing is a very vital one. Housing starts with arithmetic and ends with arithmetic, but it is only when a fine architect handles that arithmetic that the architectural results are obtained.

Mr. Armstrong is the type of architect who builds his work round the needs of the people that he is serving, and that is very important. Reference has been made to the old barracks of the past, and there may still be some who feel that, in providing all the amenities of life that Mr. Armstrong has shown to be desirable, we may be pampering those who are in any case subsidized. In that connection I remember very well a visit that was paid to this country during the war by representatives of the American Housing Agency, who, in looking over a block of flats, were amazed at the planning and internal fittings, which were of a much higher standard than anything of the kind which they knew in America. They also looked at some of the inhabitants who had recently been brought to the flats from the slums, and they asked the very pointed question: 'Are not these flats much too good for the people for whom you have designed them?' The superintendent of the estate smiled and said: 'Well, there are perhaps some who are past hope; there are some who will remain just as they are or perhaps they will be a little improved; there are some to whom the flats will do a great deal of good'. Then he went over to a couple of bonny children who were romping across the grass and he said: 'These are the people for whom we are really planning, the people of the future, and there are no people like them'.

**The Rev. C. B. Mortlock** [*Hon. A*]: Mr. Armstrong spoke of the convenient disposal of babies during the day-time, and I should like to ask him what becomes of the perambulators. Where are they put in these dwellings? Are they taken up to the flats?

**Mr. Armstrong:** The storage of the perambulators is a matter of difficulty. We hope that, with the introduction of passenger lifts, it may be possible to take the perambulators up to the various floor levels with ease, but it is appalling to discover the size that the lift has to be in order to take a perambulator and the cost that has to be borne in

Two examples of unprotected lawns and retention of trees.

respect to it. The general policy adopted in these schemes now is to give each dwelling a store on ground level, capable of taking a perambulator, bicycle, and so forth. In many cases today, of course, the perambulator that is used is of the folding type.

**Mr. Frank Scarlett** [*F*]: I should like to express my appreciation of Mr. Armstrong's excellent, interesting and comprehensive paper.

The improved space standards laid down by the Ministry of Health since the war represent not only a very great advance for working-class dwellings but also a considerable advance over the pre-war luxury flat. I think we have to look forward to the time when materials and labour will not be so scarce and to think what the next improvement is going to be. Mr. Armstrong mentioned that the first amenity is space, and I think that the second amenity, which is nearly as important as space, is warmth. Mr. Armstrong will probably agree with me that central heating should be universally adopted for flats, it being the only method by which flats can be kept warm. It shows a very great economy in fuel.

I should like to say a few words about balconies. I think that all architects who have faced the problem of designing balconies realize that it is very difficult to design them so that they do not project too far and so keep all the sunlight from the windows, whilst at the same time being large enough for people to stand on or put chairs on, and I do not think that the dwellers in the flats are quite as grateful as they should be.

Mr. Edwin Williams emphasized the quality of humanity, which I think it is most important to remember as far as the elevation and the external appearance of a block of flats are concerned. A wealthy man will pay £1,000 a year for a flat in Grosvenor Square; he likes to be part of a grandiose architectural scheme and he does not mind being situated between one pair of Corinthian columns, but I think the working-class flat-dweller wants to be able to say: 'That is my flat'. I think if we remember that the emphasis or the variety in a block of flats is obtained horizontally, in other words, with flats of different sizes arranged horizontally, whereas in a Georgian street the emphasis or the variety was obtained vertically, that may possibly be a clue to the right approach.

**Mr. Martin Buckmaster** [*Hon. A*]: I think that planning and housing should be looked at from the point of view of the future. Changes come about so rapidly that the planning of the present day will probably be quite out of date in 50 years' time. Perhaps we cannot look so far ahead as that, but we see how things have moved in the last 10 years and they will move more rapidly still in the future.

**Mr. Armstrong:** I am grateful for your vote of thanks and also for your patience in listening to my rather long paper.

Mr. Buckmaster spoke of the problem of dwellings which will be out of date in 50 years' time. It is very difficult to say what form of dwelling will be wanted in 50 years' time, and I think all we can do is to anticipate as intelligently as possible what the needs of humanity will be. As human beings we do not alter very much. We still want warmth and we still want privacy.

I should like to thank Mr. Williams very sincerely for the kind remarks that he made, and I should like particularly to say that, in my experience, the help that an architect receives from the officers of the London County Council especially and the Ministry of Health is more than one would expect. They are courteous and helpful to the last degree.

Mr. Leigh-Breese, who always takes the starch out of what has gone before, did so this evening, I am glad to say. I felt that my paper was slightly pompous and severe, but it is a matter of temperament. Mr. Leigh-Breese has one of those ebullient temperaments that it does us all good to see. I heartily disagree with his statement that he is a layman in these matters. He is by no means a layman either from the psychological angle or from the architectural angle. He taught me a great deal of what I know.

Lastly, I should like to thank my old friend Sir Alexander Campbell for the very pleasant remarks that he made about me.

# Address to Students

## by the President, Sir Lancelot Keay, K.B.E.

### Read before the Royal Institute of British Architects 11 February 1947

PRECEDENT DECREES that early in his year of office the President of the Institute should read an Inaugural Address. Though the occasion may prove to be a test of nerves to him, the new President can usually rely upon a sympathetic hearing from Members of the Council and others in the Institute who are responsible for his election. Criticism of the President then would to some extent be criticism of those who elected him and so the evening passes with the customary vote of thanks carried with applause.

Later in his year of office the President is called upon to fulfil a more difficult task and to deliver an address to those entering the profession who, having taken no part in his election, may feel themselves fully justified in offering their criticism of the quality and value of his address. It is this difficult task which faces me tonight; the task of trying to help without appearing to preach and trying to guide without being dogmatic.

I should like first to offer a word of sympathy to all those whose studies were interrupted by the second world war. Precious years were lost which cannot be retrieved. But I should like to add a word of encouragement and tell you that the Council of the Institute is fully conscious of all the difficulties of its younger members and will help in every way possible to minimize them.

Though we as architects are passing through a time of depression, surely a very bright future lies ahead. We should regard this period as a period of preparation and make the best use of our opportunities. Never in our history was the need for efficiency in every walk of life more necessary. There is no place in the world of today for the 'fairly goods'. The knowledge of our art must be such that we excel in its application and inspire confidence in all who entrust their work to us. Sometimes the accusation is made that the artist is not practical. Often it is said that the practical man has little artistry. Today we live in an essentially practical age and it behoves us to temper the practical with the touch of the artist, for efficiency of itself will never completely satisfy.

In your studies you have learnt not only of the history of your art and of the rudiments of design, but also of its practical application. Most of you feel fully equipped and ready for achievement and self-expression. Two paths lie open to you, but you have probably chosen already which one you will take. One path involves your acceptance of certain canons established by tradition. Accepting these as your guide, you may enliven and invigorate them with your ability and ingenuity. In other words, you may be willing to accept the fundamental foundations of our tradition and build upon them to evolve a style which, though well rooted in the security of established practice, may have all the vitality of a progressively living style.

The other path, perhaps the more popular today, will permit you greater freedom to express your own individuality, unfettered by the restraining influence of established traditions. It is not for me to attempt to guide you in a matter which must be one for your own choice. Whether you decide to pick up the threads where others left them and, profiting by their experience, to design with greater freshness and liveliness than they did, or to strike out for yourselves, there is one compelling factor which will govern all your work, if it is to be satisfactory. I refer to the magic property of good proportion and seemly composition.

There are those who claim to be able to analyse an architectural masterpiece and to prove that it has been conceived upon some proportional framework set up with mathematical precision. Others will ascribe to the Master Architect some power of achieving the beauty of proportion by some intuitive and far less laborious means. Whether we possess that faculty or rely on some mechanical or mathematical means of attaining it, we may be sure that proportion is one of the first essentials in all sound design. Few will deny the existence of defined rules of proportion and none will dare to ignore the necessity of making use of them. I have little doubt in my own mind that the restfulness of a building can be achieved by adhering as nearly as possible to some fixed proportion throughout the whole of its design.

We are moving towards what is often described as a New Social Order. If, as it is claimed, the social conditions of any age are reflected in its architecture, we may confidently expect a new order in architecture to evolve from this change in social conditions. It is evident that we are moving towards greater social uniformity. But this may tend to a greater uniformity and an increased monotony in our buildings. The planned economy which is to rule our lives may be accompanied by an efficiency in planning intended to give greater ease and comfort in living. Those two things alone will not be sufficient. There is too a movement for greater co-operation between all who play a part in building operations, that the craftsman may benefit from the skill and knowledge of the technician and scientist and that the products of the craftsmen of many trades, though practical and efficient, shall also be made the more acceptable by bearing the impress of the artist. The signs of this movement towards greater co-operation are evident on many sides, but in these days there is a danger that by bowing too low before the altar of efficiency we may accept products far less satisfying than those of our predecessors, who realized that cultural and spiritual demands must be recognized, and who left behind them their contributions in some of the greatest architectural periods of this country.

Whilst it is easy to speak of the need for collaboration with the technician and the scientist and to welcome the signs demanding this closer co-operation, it is more difficult to define precisely at what stage collaboration should begin and to what limits it should extend. The realization that the architect must above all be practical and accept full responsibility for the buildings erected from his design tends to develop his constructional rather than his artistic abilities. The client of today may forgive the architect whose building does not reach the artistic standard anticipated, but he will not absolve him if it fails constructionally or if it fails to fulfil the purpose for which it was designed. Today the young architect is apt to be tempted by the wiles of advanced technicians and the purveyors of new materials. In a few years he may find his credulity and enthusiasm awarded by many unpleasant surprises. For this reason the more timid may insure against possible failure by a closer adherence to the long established traditions of craftsmanship. But I realize that in suggesting caution there is a possibility that the adventurous spirit of some may be restrained and the world may be the poorer, for it owes much to its adventurers.

I have referred to the limits of the field of architectural influence. There are many in the profession today who desire to extend this influence and there is much to be said for so doing. Every component included in a building should satisfy the critical inspection of its designer, for his responsibility extends over the whole. As designer the architect controls the building craftsman and imposes his ideas upon him. The joiner fashions the staircase or moulds the panelling to the architect's details. But the architect is not expected to supply the details for the construction of the kitchen cooker. I must apologize for mentioning the kitchen cooker as an example, because the kitchen cooker, which was until a few days ago something of utility, has now become a mere ornament! At some time before the design of a component passes from the technician to the moulder or the mechanic, the individual architect, or one acting on behalf of architects in general, should have the opportunity of making suggestions as to the shape and other details of such equipment. And so one might go on to discuss the problem of the place of Art in Industry. We must leave it tonight with the realization that this association is necessary and indispensable. To give effect to it may be difficult. There is a danger that, through our insistence upon being allowed to play a more extended part in the design of the components of a building, we may lose sight of our main function, the planning of a building to secure its most efficient use

and its carcassing in the most efficient and artistic manner.

I have referred to the claims made for the use of new materials and new methods of construction which may tempt those in search of novelty and adventure. Time will be the merciless judge of their credulity. New ideas as to space planning are much in evidence. They may bring greater efficiency and ease in supervision but they may lead to certain discomforts and losses in economy. There is too, a tendency to believe that this advance in space planning and arrangement must necessarily be accompanied by new constructional methods. Already, after a comparatively short life, there are to be found many pitiable examples of failure in some of these new methods. Many a building, acclaimed on its completion for its sleekness of outline and brilliance of colour, now shows a shabbiness of façade. Much of this might have been avoided by the simple addition of a protective coping or an overhanging eaves, two features which our predecessors, in their wisdom, realized as so essential in this English climate.

In uttering a warning against excessive standardization I know that I shall probably invite very keen criticism. Standardization is obviously overdue in many fields of building and must lead to certain economies. Economy is more necessary today than at any time in our history. But lower building costs must be obtained by greater output and not by the supercession of craftsmanship. If the standardization of certain components and fittings leads to their mass production, that must for a time effect economies, but to continue their mass production in face of later developments must certainly retard progress.

Carried to extremes standardization will be, and indeed in some fields is being, applied not only to the fittings and components but also to the planning and construction of buildings. I will not dwell upon the disastrous effect that this must have upon the artistic evolution of our people. Standardized buildings must lead to a standardized outlook and to a more sheep-like complacency than we already possess. It will prevent any rearrangement in the furnishing of our homes, a pastime which gives pleasure to many and fosters a deterrent to the ready acceptance of imposed dictation.

I am afraid you will think I have unduly emphasized the need for caution. I have no desire to restrain your enthusiasm for self-expression. We look to you, the students of today, to play your part in re-vitalizing the profession, but at the same time to respect its traditions and to accept the responsibilities of architect to client and the public.

If you have not already done so you will make your choice, whether to enter upon a career of private or public service. Both have their advantages, both are in need of the most efficient exponents of our art today. I have no intention of attempting to influence that choice. The field of official architecture must expand. That is inevitable, but though this public service is thought by some to offer greater security and prospects of more rapid promotion the plums which grow in the official field are comparatively small and they are few in number. Whichever your choice, you must be at pains to acquire the fullest knowledge of your art and be prepared to instil in others with whom you are brought into contact an increasing love of the beautiful.

I realize that I shall be criticized for merely reiterating what most of you already know. But there is little new to tell you in the world today. I might have spoken to you of the work with which my name is sometimes associated and I might have given you the benefit of my own experience or have discussed the relative merits of grid planning, which was practised by the Greeks and Romans as a proper setting to their more monumental buildings; or of contour planning, which probably owed its origin to the movement of cattle and decided the positions of the first primitive dwellings in our land. Would it have interested you to discuss the gradual growth of Gothic architecture or the evolution of design resulting from the constructional details of the classic period? In these days of austerity few monumental buildings are likely to be erected. If we subscribe to the theory that all building should be for a limited period only, they never will be. If and when you play a part in the erection of such buildings you will hold yourself quite free from the fetters of tradition, both in construction and in design. And yet you must possess the fullest knowledge of all that has gone before you. Success will be better achieved in all you do by your being certain what can be done and how, and at the same time by your being aware of what has been done and why. Failure often dogs the path of the brilliant enthusiast who fails to heed the warning lights of experience.

You have entered a profession of great dignity and of great opportunity and responsibility. You will do well to eschew all clichés and catch-phrases. I have not told you anything that may be helpful to you, but do not allow that to detract from the sincerity of my wish that all of you, through your own hard work and determination, may find a worthy place in our great profession.

## VOTE OF THANKS

**Sir Graham Savage, C.B.** (Education Officer, London County Council): I suppose we all know the old story of the barrister who, in cross-examining a doctor in the witness-box and challenging a statement that the doctor had made, said: 'Doctors' mistakes are buried six feet below ground', to which the doctor replied: 'And lawyers' mistakes hang six feet above it', a repartee which may or may not have served its purpose. Architects' mistakes are not buried six feet below ground nor do they hang six feet above it; they remain on the ground as long as the buildings remain, and, as one who has inherited a large number of buildings which he would have liked to see disappear a long time ago, I sometimes feel very conscious not of the architects' mistakes, for they were not mistakes in their day, but of buildings which have long outlived their usefulness but which we shall have to use, I am afraid, for some time to come. We watched some of them disappear in the blitz. I went one morning to see one which had been ablaze all night, and I said: 'Thank God, that has gone'. But it has not. We have had to repair it, and I do not know how long it will remain.

I believe that you, as students of architecture, have a great future before you. I was surprised to hear the President say that you live in a time of depression. I thought there never was a time when architects were more in demand, but perhaps you are still in the repair stage. In the educational world we look forward to an immense amount of building, as I think you will see in the course of a few weeks. When it can begin I do not know, but amongst the buildings that are erected in the near future we hope to see a fairly large number of big schools. The Government, as you know, has decided to establish its educational system grouped round a new conception of the secondary school. That means that we shall have big schools, and they offer enormous opportunities to the architect to display his skill.

I have the greatest possible pleasure in proposing a vote of thanks to the President for his address.

**Dr. G. I. Sinclair, M.Sc.** (Headmaster, Brockley County School), in seconding the vote of thanks to the President, said: Whenever it falls to my lot to speak in a body of professional men I am particularly diffident, but it may be that I can say a word or two to the students for this reason, that as a practising schoolmaster I have to talk to my senior boys about their future professions and accordingly I have had to think about architecture as a profession in its relation to other professions. It appears to me that the young architect today has chosen a very good time to start in his profession. Architectural ideas, if I understand them rightly, are in a most interesting state, stimulating and even exciting. Furthermore, eminent architects have for many years been giving very careful thought to the question of how to train the new members of their profession, and the result is that anyone who is undergoing architectural training today is receiving a much finer training than he would have had 30 or 40 years ago. In that respect he has chosen his time well. In fact, when I see the courses of instruction that young architects are being given today and compare them with the instruction given in other professions, I realize that there is no other profession that offers a beginner such a fine opportunity of giving himself a liberal education while keeping within the bounds of his professional training.

But students do not remain students for ever. They have to start practising in their profession. What can I say to my boys about what architecture will offer them? I tell them that architecture will offer them interest, difficulties and opportunities, and that is not a bad foundation on which to build a satisfying life.

With regard to your opportunities, I would stress one that has already been men-

tioned. We are facing a period in which material reconstruction will be absolutely necessary, and architects will have to come to the aid of the nation in that respect, but spiritual regeneration is also important and architects have their part to play in that. If this country is ever going to be civilized we must form habits of civilized living, and architects have an enormous part to play in providing the conditions in which we can live a civilized life.

I have very great pleasure indeed in seconding the vote of thanks to the President.

**The President:** I am not going to detain you for more than a few moments, but I just want to tell you a secret. It used to be the practice, before the war, to distribute the money prizes to the students before the President's address to them, and some of the students left before the address. I was so afraid that I should be talking to empty benches that we decided to reverse the process tonight!

There are only two questions to which I should like to reply. Sir Graham wondered whether I was really serious in saying that this was a period of depression. It is a period of depression for many architects who are doing a great deal of work without getting any money for it! All architects are not official architects, who unkind critics say do nothing and get a lot of money for it!

Dr. Sinclair asked what he could tell his boys. I would say: Tell them that there is no finer profession in the whole world than architecture, if they are willing to work. They have the world before them, and, if they are properly trained, as they should be today, and do their work well, the world will be a very much better place because they are in it.

I thank you very much indeed for the vote of thanks which you have accorded to me.

# The Danish Exhibition Reviewed

## By Gerald Holtom, Industrial Designer

THE EXHIBITS illustrate the typical furnishings of the Danish £500 a year family, and they give an impression of this income group as sootless, blond and youthful, living in small bright rooms and bearing lightly their burden of post-war austerity with the assistance of central heating. Homecraft influence predominates the whole exhibition, and is punctuated by silverware of fine craftsmanship and great excellence and delight.

The Danish approach to domestic design is similar in many respects to a movement which also started in Britain in 1900 when small industries were developed, based on homecraft tradition and associated with the names of Ernest Gimson, H. H. Peach, Gordon Russell, Ambrose Heal, C. R. Mackintosh, etc. This movement also found expression in the Garden City idea, but, whereas in Britain these small industries remained isolated, 'crafts' became self-conscious and 'arty', and industrial processes lost contact with a sound foundation; in Scandinavia the homecraft influence prospered, developed and predominates now under the patronage of the Society of Danish Handicraft and Industrial Art founded in 1907 and in Sweden under the regional homecraft associations founded at the same time.

The value of this exhibition, from a design point of view, lies less in a source of new ideas but rather in a comparison with our own design solutions to similar conditions and, at the same time, the exhibition provides a pleasurable insight into the character of the Danish £500 a year family. Exhibits were displayed in small groups and individually, with very little descriptive matter, and it was left to the imagination to fit them into the small, apparently draughtless, Danish rooms with decorative flower boxes and intimate indoor plants. In a display of this sort each exhibit speaks for itself and invites criticism.

The strict limitations of rattan construction make it probable that designers working without knowledge of each other reach similar solutions. The wicker chairs and sofa with cushions designed by Viggo Boesen, are of an excellence almost to compare with similar chairs designed by H. H. Peach in England 40 years ago. However, I hope the Danish designers will accept as a compliment the suggestion that their work might be derived from that source. These Danish cane easy chairs appear to be used in the sitting room, undoubtedly the best place for them. The British custom of relegating cane chairs to the garden is indefensible and has probably arisen from the lightness and durable surface of rattan. Although Viggo Boesen's chairs are most decorative and inviting in appearance they are not the right shape for the human spine; only a post-war lounging posture would conform in comfort to their relentless unbroken radius from nape of neck to knee. This fault is conspicuously absent from the other chairs exhibited.

And where do the Danes get their rattan? One of the best easy chairs in all Europe and America was made of rattan, designed by H. H. Peach, sold in the shops up to 1939 for 52*s.* 6*d.*, and was of similar comfort and as great beauty as any chair in this exhibition. There would be a grand export market of these English chairs to the discriminating Dane if rattan were made available for our own designers!

The spindleback chair and sofa in ash demonstrate an economy of timber which must be seen to be believed. A slender rail of 1 in. dia., in continuous bends, is used for arms and back, and is supported by upright rails of $\frac{3}{8}$ ins. dia. High Wycombe would not pass this, but here are the goods before our eyes, and they have apparently proved to be strong enough in use.

Two rocking chairs of great beauty, one in cherrywood with webbed seat and loose cushion, designed by A. O. L[illegible]sen, and another in beechwood with rush seats, by Hans F. Wegner, have a particular charm and character, which seems to be an expression of contemporary Denmark. Their counterpart exists in the English ladderback and spindleback chairs developed by Ernest Gimson at the end of the last century and still being made by Mr. Edward Gardiner. Our own chairs of this type would probably arouse as much interest in Denmark as the Danish rocking chairs command here.

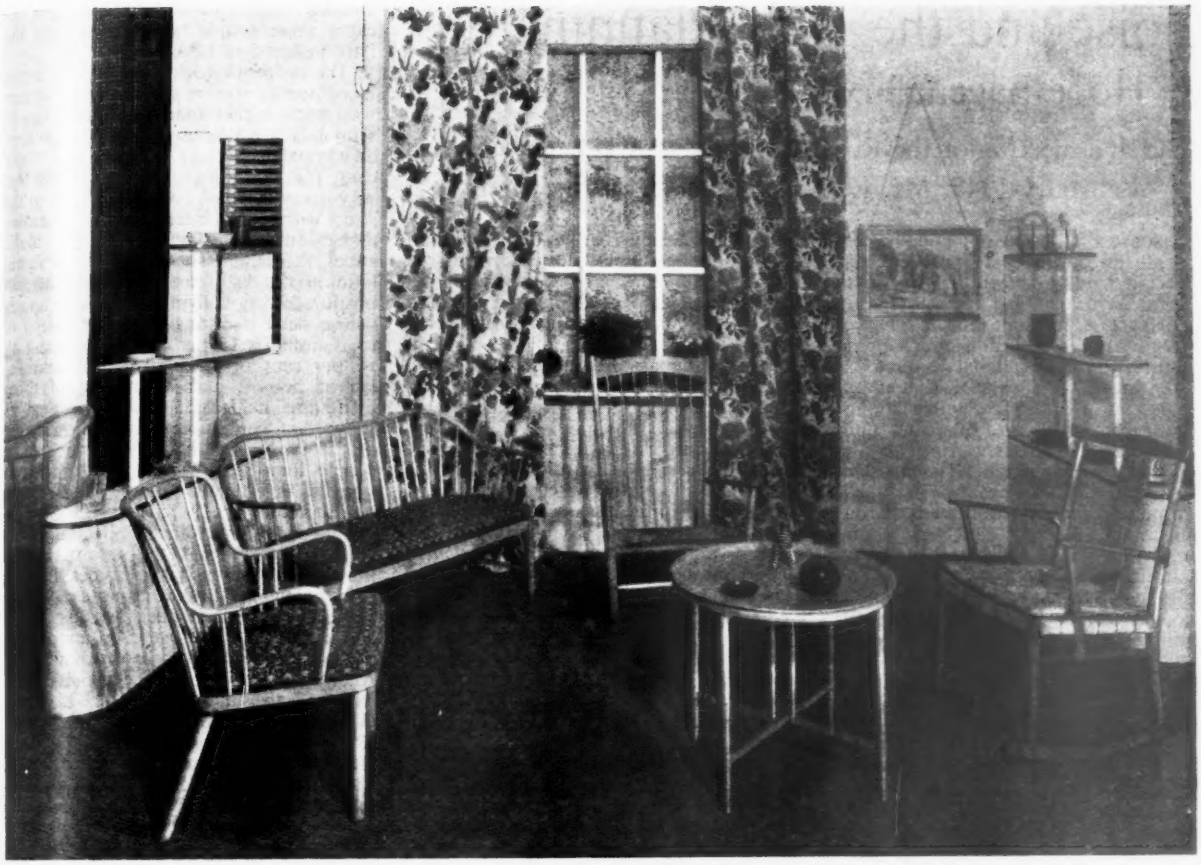
Four dining chairs are similar to those excellent chairs which used to be imported from Scandinavia in 1939 at the price of 3*s.* 9*d.* each. Will it ever be possible to compete with continental chairmaking again? My own opinion is emphatically yes!

The materials continually recurring in exhibitions of Scandinavian domestic design are straw, rush and coppice-wood. Straw and rush is abundant now in East Anglia, while the echoes of William Cobbett, crying out the virtues of ash plantations, are to be heard and seen among the walking-stick manufactories of Godalming. Designers might be interested in examining the claim that 50,000 sticks per acre per year can be harvested from good land. This wood seasons in twelve months and is stronger than sawn plank.

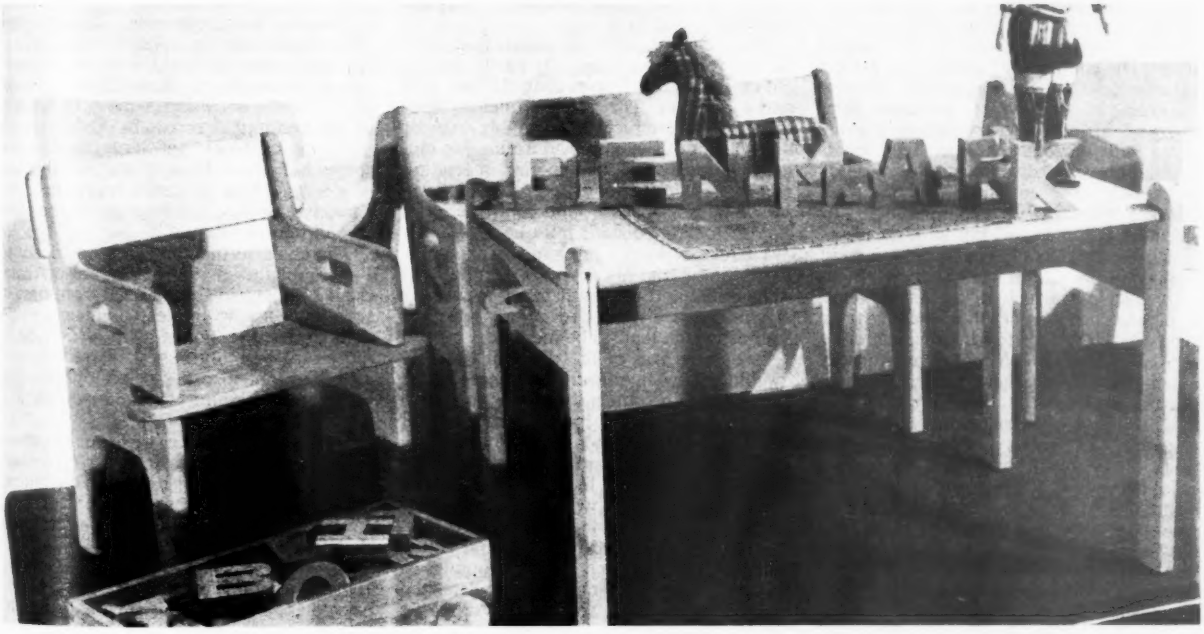
The curtains, chair-covers and rugs are all pure craft work, being either hand-printed or handwoven, and in consequence they are complementary in scale and colour to the furniture and pottery. It is rather encouraging to note that one might find similar textiles in many English Art School annual exhibitions. Assuming that they are typical examples of goods to be found in Danish homes, handwork at home must be very extensively practised and there must be a large discriminating public of craftsmen who encourage refinement in the design of Danish domestic equipment. The Danish homecrafts are more essential in daily life than our own arts and crafts, and their influence is a sure foundation to limit the industrial designer. The requirements of daily living in Denmark are clearly defined and understood by the makers and users of the stainless steel cutlery and kitchenware exhibited, and, like the silverware, china and toys, were made to be handled. I have never been more frustrated in an exhibition by the discreet notice 'please do not touch'.

In conclusion, I must emphasize that the value of an exhibition of this sort is not so much in providing new ideas for designs but in giving us an insight into the character of our neighbours as expressed by the way in which they solve their design problems, exemplified even in the simple things such as the robust and simple kitchen cupboard, unpainted, with no gadgets, hinges or hooks, and fitted with large sliding doors. The exhibition might also be a valuable stimulus to a designer to look inwards to the sources of design and materials at home which exist among sections of the community where a similar approach exists to the Danish way of life.

*The next exhibition will be 'Timber Research and Building' 29 April to 10 May.*



From the Danish Exhibition. Above: ash furniture; the top rail of the settee is a single stick of 1 in. dia. in continuous bends. Below: Children's furniture and toys; the table can be assembled by a child.



# Noise and the New Planning


## By Hope Bagenal, D.C.M. [*F*]


Read at a meeting of the R.I.B.A. Architectural Science Board on 5 February 1947. Mr. R. N. Wakelin [*A*] in the chair

THE SUBJECT of noise reduction needs a sympathetic but critical approach. As a subject it tends to create its own myths, therefore critical people under-estimate its importance. At the same time its results can be so disastrous to health and happiness that those who have suffered from it tend to over-estimate its importance. I should like to give you—if I can—the information for a true picture of the problem as it is now. First, what are the risks we run in the new planning by misjudging it? The major risk—as I see it—is that we may be introducing loud noise sources on to a relatively quiet background. During the war country dwellers have been very much more conscious than formerly of the nuisance of new airfields but town dwellers have not had a comparable experience. We should then take for our pointer to the future the case of those country districts where conditions are endured, but much disliked, of a loud aircraft noise supervening irregularly on a relatively quiet background, and note that these conditions are more trying than the raising in urban areas of a continuous traffic background, or factory background. This in short is the menace of aircraft and of engine test houses. There are other serious risks—there is the risk of the further rise in the numbers of those whose sleep is disturbed by noise sources among average town dwellers. I would remind you that the Wartime Social Survey, 'Sound in Dwellings', already puts this disturbance of sleep as high as 33 per cent: this is serious.

A word on the evidence provided by this survey. The enquiry was carried out for the Building Research Station by Mr. Dennis Chapman, of the 'Wartime Social Survey', and his staff. Interviews were conducted with persons living in 2,017 small and medium-sized dwellings in all parts of the country. The enquiry was concerned with the frequency of complaints—with subjective attitudes and not with measurement of noise. The types of question were classified into—sounds heard, sounds which trouble, sounds which disturb sleep; and the noise sources as (1) those having their origin in the home, (2) in a neighbour's home, (3) sounds which come from outside. It is the last we are here concerned with. As to *sounds heard* it is interesting that there are some 7 per cent who, when asked in general terms, say they don't hear noises. (They are probably a race in process of being evolved more fitted to survive.) Of the other two categories 'being troubled by sounds' corresponds more to day noises, and 'sleep disturbed' more to night noises.

In the day category there is a total of 40 per cent who are troubled: in which 'children playing' heads the list with 18 per cent, followed by 'road traffic' 14 per cent and 'domestic animals' 13 per cent. In the night category there is the total of 33 per cent already referred to: in which the most important sounds which disturbed people's sleep were those of road traffic, 13 per cent; domestic animals, 12 per cent. Other disturbances of sleep are rail traffic, 7 per cent, children playing (much less, of course, at night), delivery vans, poultry.

Other comparisons are as follows: p. 23. The '*nuisance value*', as distinct from the frequency, of sounds which 'trouble' and 'disturb sleep' may be shown if the number of people who are 'troubled' and 'disturbed' are expressed *as a proportion of those who 'hear each sound'*! This gives some figures as follows :—

| | *Per cent troubled* | *Per cent sleep disturbed* |
|---|---|---|
| By domestic animals .. | 37 | 34 |
| By children playing .. | 30 | 15 |
| By road traffic .. .. | 20 | 19 |
| By rail traffic .. .. | 17 | 17 |

Another is the effect of living 'near' a railway. The distance of 100 yards is taken as the limit of 'near'. 'If all who hear, are troubled, and disturbed, by the sound of trains are divided into those who live within 100 yards of a railway and those who live further away, it is found that 55 per cent of those who hear, 72 per cent of those who are troubled, and 70 per cent of those whose sleep is disturbed, live "near" a railway.'

The comparison of complaints from traffic as from main roads, by-roads and in cul-de-sacs were 26 per cent, 11 per cent and 4 per cent. This refers to being 'troubled'. The same picture is roughly true for disturbance of sleep by road traffic. The cul-de-sac appeared to be superior in relation to almost every sound *except that of rail traffic* (a quiet background can, of course, expose to loud distant noise).

There are figures given also that show that in industrial districts it is complaint of road traffic and rail traffic noise as well as machinery, whistles, and other industrial sounds, which tend to be increased.

'A comparison of the different types of dwelling show significant differences in the case of certain sounds, but these appear to be the result of the location of different types of dwelling rather than the insulating quality of their structure; thus a larger proportion of people living in flats hear "children playing", which is no doubt accounted for by the fact that a large number of the flats visited had a central courtyard used by children as playgrounds. In contrast people living in semi-detached houses heard more sounds of "domestic animals" and "poultry", presumably because these people had gardens and the flat-dwellers had not'. p. 27.

'The proportion of people living in terraced houses who were troubled by sounds was much higher than of those living in semi-detached houses or flats—20 per cent as compared with 13 per cent and 9 per cent. This is no doubt due to the fact that very many terraced houses faced on to the street without the intervening front garden and that many flats are built away from the street altogether. The same is true in relation to the disturbance of sleep. The proportion of people living in terraced houses whose sleep is disturbed by the sound of road traffic is 18 per cent compared with 10 per cent of those living in semi-detached houses, and 7 per cent of those living in flats'. And, finally, the analysis shows that 'sounds from outside the house are heard by, trouble, and disturb more people than sounds from the other two sources investigated (home and neighbours' home)'. p. 29.

This survey is a pioneer: it attempts to give us figures and the information is thoroughly useful as far as it goes. It needs to be extended. It takes no notice of aeroplane noise: and it does not distinguish classes of *background noise*. In my opinion it needs to be related to background noise. Another piece of evidence which weighs with me is the survey made by the Liverpool Council of Social Service, who interviewed 834 tenants in municipal buildings and attempted to summarize the wishes of Liverpool women. Sound insulation comes fourth on a very practical list. I was also impressed by the evidence of the Society of Women Housing Managers before the Acoustic Study Committee during the war. Miss M. E. Baskett, one of the ladies who gave evidence, says in an article in QUIET (October 1943): 'Careful layout and design (of working-class flats) may do a good deal to produce quieter homes, although possibly resulting in fewer flats to the acre, e.g. the avoidance of children's playgrounds placed under the windows of flats, of blocks of flats built enclosing a noisy courtyard, of the communal access balcony; and the planning of blocks of large family flats somewhat apart from those for the elderly. . . .' This evidence reinforces the Chapman Survey's findings about the noise of children playing.

There is also the continuous evidence of the complaints made to the Noise Abatement League and summarized from time to time in QUIET. In the last number a writer enumerates the noises with which he is more or less continually distracted, and sets them out in order of annoyance. The first three are aircraft, motor-cycles and barking dogs.

Briefly to summarize, we have then major external noise sources in order of menace somewhat as follows: road traffic, children playing, rail traffic, barking dogs. To this I would add factory noises and aircraft and their engine test houses.

**Importance of Background Noise.** May I ask you to compare in your mind the case

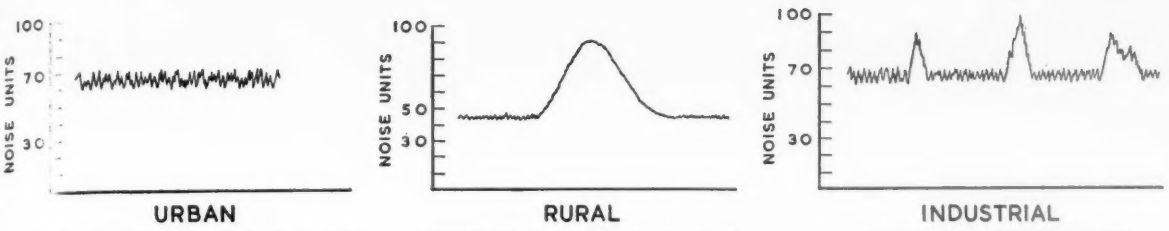



Fig. 1: Acoustic Climates

of the new town to be planned in open country where safe distance from noise sources can be ensured, and the opposite case where, in our ancestral industrial areas, housing is confronted with old 'sandwich cities' where works have grown up in back gardens, where factories and housing estates come next each other and where the working-class population are bred and inured to noise, and want to live fairly near their work. Here are two different noise climates.

Extending this we can distinguish broadly three different empirical noise climates:
(1) Urban having sustained traffic noise.
(2) Quiet rural or suburban exposed to aircraft noise.
(3) Industrial having traffic plus factory noise.

As a trace on a noise meter these three can be shown very roughly as follows: (here Mr. Bagenal sketched Fig. 1 on a blackboard).

To students of acoustics, 'background' or masking level is well known; but its effect in practice must be better recognized by designers. A loud, familiar, non-irritating background will cut out a great deal of intruding noise which would otherwise be a nuisance. It is a blessing in disguise. An intruding noise of the same general quality will not be heard at all unless, very roughly, it is within 20 decibels of the background noise. It means for architects in practice that sound-proofing against interior noise must be much more efficient on a quiet site than on a street front. It means that a comparatively light weight partition will serve in city offices which will not serve in the home; and in town planning it means that noise menace is intrusive noise, and intrusive noise is relative to the background. But in regional planning *we are perhaps altering the background.*

**Noise and Nuisance.** We must also attempt some assessment of noise nuisance. The sheer loudness of a noise is only one factor. There are two others: (1) its regularity or irregularity in time, and (2) some quality depending on its frequency components or pitch make-up. As an example of the first we have the train of exhaust noises from a gas or oil engine. In such noises there is a spoiled rhythm, it cannot be anticipated and resolved by the brain, and it is able to drive to desperation. Now this characteristic of the expectation of rhythm aroused and abused is easily recognized, and such noises reaching the window sills of dwellings are public enemies.

The second—some quality of the noise depending on its frequency components—is unfortunately very difficult to define though it can be recognized. May I give you three examples: The siren in wartime has been designed to penetrate and to rouse: it warns of danger. When an organist playing a march wishes to rouse a final excitement he pulls out his reed stops and plays the same air but with a certain quality added. When an infant cries it has a something in the sound which penetrates to the mother's ear through walls and partitions: but to others, not concerned with it, is intensely irritating. It communicates in a highly efficient way the message 'you must do something about me'.

Now in these three and in many other instances there is a common ingredient, namely, *a call to primitive action.* The quality that annoys is the call to action when the individual is in thought, and the consequent frustration. It applies specially to class rooms and lecture rooms; book learning can only be communicated by a process easily broken into among the young by such inappropriate calls, acting both consciously and unconsciously.

And these three examples of sounds also have in common the fact that certain kinds of *tone mixtures* appear to give them their relative sensation efficiency within a certain distance. What these mixtures are and the method of their stimulating action belongs to physics. I would only suggest here that the work done on the efficiency of sirens has a bearing on noise and nuisance: is in fact the other side of the shield.

**Regional Noise Sources Distinguished.** I want you at this point to make a distinction which I consider important from the town planning point of view, namely, between 'regional noise sources' and 'local noise sources'. The regional noise sources are: aircraft rising and landing at the airfield; aircraft engine test houses; railway shunting yards. These regional noise sources may affect a whole neighbourhood up to 5 miles.

**Aerodromes** as regional noise sources present the designer with a series of conundrums. During the war we put up with air noises of all kinds, and were, and are, grateful to our airmen; but it is relevant now to pick up the pre-war threads. Owing to complaints received of aeroplane noises a deputation of the Noise Abatement League in 1937 waited on the then Under-Secretary of State for Air—Col. Muirhead—and urged the Secretary of State to consider certain remedies. These remedies included:

(i) The prohibition of the use of aircraft for advertising purposes.
(ii) Certain residential areas and those around hospitals to be scheduled as 'restricted'. In restricted areas joy riding and stunting should not be allowed.
(iii) Short instructional and practice flights should not be allowed except in authorized places.
(iv) Subject always to strategic considerations, new aerodromes should be so placed that aircraft leaving them are not compelled by reason of the direction of the prevailing wind to fly over built-up areas. (The League noted that noise is worst when the machine is taking off and is still at a low height with its engine developing full power.)

The League undoubtedly had then in mind the serious case of Emsworth, near Portsmouth, and of the repeated protests of residents of all kinds who found themselves exposed to low flying day after day, owing to bad airfield siting.

I must also remind you of the report of the Gorrell Committee on Control of Flying in 1939, briefly reported in THE TIMES thus: 'The Committee believes that the public is more concerned with the nuisance characteristic of flying than with the safety aspects, and it gives attention specially to the subject of low flying. It holds that, in taking off and landing, pilots should make use of the greatest available length of runway in order to minimize low flying over houses on approach and departure. . . . It is further proposed that, from time to time, the Air Ministry should make a special study of the question of aircraft noise and prescribe a maximum noise output for all aircraft, especially those engaged in the primary training of pilots. . . . The Committee is opposed to all forms of air advertising'.

Such was the state of public opinion as mirrored in the report of a highly authoritative committee. Already three types of nuisance problem were discriminated, namely, taking off over built-up areas; advertising and stunt flying; training grounds with frequent small flights.

We have now to envisage large civil airports having a heavy timetable of aircraft arriving and taking off (as many ultimately as 160 an hour), and these airports will become great centres of building development; we have large military airfields, flying schools, and experimental airfields for the large engineering development firms. These will all have their particular problems. The extent of the fully developed civil airport is difficult to envisage. It is

worth while to quote a few extracts from the U.S.A. Department of Commerce official airport manual AIRPORT MANAGEMENT:—

'. . . the more facilities provided at an airport the greater will be the public's patronage, and consequently the greater the revenue.'

'The spectator ramps at La Guardia Airport and Washington National Airport have proven splendid revenue producers. Ten-cent turnstiles are used. Thousands of dollars are paid annually into the turnstiles permitting the visitors to view the entire operations on the field. The ramps run along in front of the administration buildings and over the air carrier loading platforms. A number of sports have been suggested for the amusement of airport patrons, visitors and employees. Possible revenue amusement facilities include tennis and badminton courts, golf driving ranges and putting greens, shuffle board alleys, billiard and ping-pong tables and bowling alleys'.

'The airport offers many other opportunities which may be termed "business privileges". Included among these are sales agencies for airplanes, with showrooms similar to downtown automobile salesrooms. Aviation supply stores, small manufacturing plants, and various other types of business which fit into the general scheme of things connected with the operation of an airport. Business houses of this nature are not actually considered concessions but independent firms leasing airport property adjacent to the airport for business purposes'.

'When consideration is given to the number of privately-owned airplanes predicted for the post-war era the possibility for airplane sales agencies at airports seems unlimited. The same is true with aviation supply stores dealing in all kinds of aviation equipment, repairs, tools, tyres, wearing apparel for pilots, etc. The major airport of the future is either going into the hotel business or the demand will be so great that individuals or corporations will build hotels or chains of hotels serving every major airport in the United States'.

'. . . once private flying is resumed and civilians are permitted to use the air carriers at their convenience, scores of people will be coming into the major airports daily who are potential hotel customers. Aeronautical exhibitions and aviation shows will draw thousands of people over the week-ends, bringing in additional business. Just about as important as the hotel is the modern garage. Here again consider the business that could have been done in the past by a combination of garage and filling station at your airport. The same will be true in the future. There is hardly a downtown business enterprise that could not be operated at or near the airport. . . . The busy airport offers a splendid opportunity for a shopping centre'.

'Recent surveys by the CAA have disclosed that large parcels of land in the vicinity of many of the major airports throughout the country have been acquired by option, or purchased outright, by persons interested in establishing sub-divisions adjacent to the airport property. Much has been said about the enormous amount of air cargo which will be handled in the future. If these predictions come true, the airport will furnish great possibilities for warehouses, delivery services, and other facilities with the receiving and shipping of freight. Building sites are leased on a number of municipal airports for the construction of hangars, buildings, shops, concession stands, etc.'

Factories, warehouses, hotels, garages, amusement parks, and all with their buildings and attendant traffic! I quote these American extracts to illustrate the powerful thrusts and interests likely to come into play. I would specially note private flying and air cargoes as new factors. Zoning and site planning on a very large scale is made necessary by aviation alone.

From the noise point of view the most urgent need in respect of airfields is to keep dwellings, hospitals, and schools at a safe distance from planes rising at a low angle. They mount into the wind; therefore the frequency of wind direction on a site is of first importance. The most frequent winds appear to be in the order of WSW, SW, W, and SSW. Various factors are weighed in choosing the orientation of the principal runway—very often it is SW. At Heathrow it is to be W. The choice gives the first rough indication of zoning requirements. In trying to assess safe distances along this principal axis to windward we have some facts as follows. A heavy air liner may need a runway of 3,000 yards (about $1\frac{3}{4}$ miles), and after leaving the ground may mount at an angle which after two miles may bring her to no more than 500 feet. The engine is then developing full power in order to gather speed, and it is under these conditions that noise is greatest. Later, when momentum is gained, the engines can go back to cruising speed and the noise is less. Clearly the angle of rise enters the problem: this for passengers is restricted by regulation out of consideration for their comfort. But variations are possible, and over existing residential property it would be reasonable to ask for a steeper rise. The level of the ground also enters. It should be noted in arriving at safe distances that complaints from Teddington have come about Heathrow, which is some 6 miles to the NW: the complaints were of low flying and loss of sleep.

A plane taxies to the starting point, well along the runway to the NE to get a full run, and starts making a fair noise at once. We have here another factor, namely, that with conditions of low cloud and light wind, noise down wind is often very much more than up wind. This is due to refraction effects, which we cannot go into here. It means in practice that there is a possibility of an increased range of noise complaints as from the NE extremity of runways.

In addition to the principal runway there are the secondary runways to the other points of the compass, each with their up wind and down wind noise sources, but, owing to their being less generally used, giving fewer occasions of noise over a given time than the main runway. And so we get the kind of elongated star shape or triangular criss-cross, having wedge-shaped areas between them. The question is how can these be wisely controlled, and for what uses, and what data can be offered. First, dwellings and hospitals must be kept out. On the other hand the occasional hotel occupant is not, in my view, so vulnerable—he knows what to expect, so that hotels for air passengers might come considerably closer. Schools, of course, are vulnerable, and it is undesirable that a teacher's voice should be drowned to a timetable. There is a class of buildings which must be kept away altogether from air lanes, and that is the class in which sound recording instruments are used, namely, cinema studios, gramophone recording rooms, etc. Aeroplane noise shakes roof structure and can set a whole building in vibration, and this is very difficult to counter. Warehouses, factories, garages, goods yards can from a noise point of view come closer. In the interesting suggested scheme for Baginton aerodrome, Coventry, industrial areas are shown in two of the wedge areas. (Note.—Clearly from the noise point of view, as well as from that of flying safety, the ideal would be that these wedge areas should be agricultural land only.)

Here, of course, we touch on the safety regulations of the Air Ministry. These regulations exercise powers under the Town Planning Act in order to ensure that 'development does not take place in the neighbourhood of an aerodrome which would impede the future use or possible extension of the airfield, or create dangers to flying and expose the occupants of the building to avoidable risk and nuisance'. (Ministry of Town and Country Planning, Circular No. 23/1946.) Within a *radius of two miles* application must be notified for all dwelling-houses, for all other buildings and for all works exceeding 10 ft. in height. Within a *radius of more than two and less than three miles* application must be notified for all buildings and works exceeding 35 ft. in height.

Now a limit of two miles from any point on a runway is not a sufficient distance for dwellings along the principal axis, and there is a reason why in large airfields it is not sufficient in other directions. This is the fact of *circling* made necessary for aircraft while waiting for their signal to land. This circling may be prolonged and may cover a fairly wide area. There is also the question of night flying. This is of great importance because it is loss of sleep that is the most serious complaint. Airfields which are intended for night flying should be recognized as belonging to a special class where zoning to greater distances is necessary. It is the Planning Authorities who must envisage the noise risks and arrive at rough safety distances. We must recall that in the past speculative builders came to airfields like moths to candles, and houses were disposed of to persons who afterwards bitterly complained. I suggest that a method of attack is to make rough noise surveys in order to arrive at the noise pattern as observed on the ground of the different types of airfield. From my own observations in

Suffolk there are areas and fields beyond the two-mile limit which seem to catch it and to indicate points in a pattern. The surveys should be done by a small group of persons, but would take a little time.

These noise patterns will be learned in the next 50 years, in any case, in the tale of complaints, worn nerves and depreciated property. 'Will you kindly allow me,' writes a citizen of Whitchurch in July 1939, 'to direct your attention to the conditions which exist in this noise-stricken area surrounding the Bristol Municipal Aerodrome at Whitchurch. It is the usual practice for anything up to a dozen planes to fly round this district for most of the day at a height of about 500 ft. and the noise created can well be imagined. This is not the extent of our troubles, however, as we are now being seriously disturbed at night.'

Training fields will give a different ground pattern for noise from that of an airport. The angle of rise will be steeper, so that safe distances can be shorter. But there may be considerable noise of taking off at certain hours. Low flying is also frequent. Aircraft designers are themselves always seeking to reduce noise in the air. This is not on account of the landsman, but for the sake of air passengers. It is one of the great problems, and a reward waits for the maker of the quiet bird-of-passage machine. Power alone is not the answer. We are told that already there is power to be had sufficient to tear to bits any aeroplane body in the air. It is performance on taking off and overcoming initial inertia that will eventually lift us more quietly off the runways. The jet engine *in the air* does not appear to be louder than a powerful piston engine, but the bomb-like whistle may be considered by some as more of a nuisance. In the test house it is a different matter.

**Test Houses for Aircraft Engines.** These are often regional noise sources of a serious kind. During the war in rural districts they have been heard up to six miles. An engineer told me that in the past he could always distinguish which test beds were starting up from his home five miles away. Very roughly there are at present three main types of engine: the reciprocating or piston engine; the jet engine; the jet turbine engine. Engines must be run on the ground for test purposes during their development on completion of manufacture, and after overhaul. During some part of the test run they must be run with maximum power, and that is when very loud noise occurs. During the war attention was paid to silencing as far as emergency conditions permitted. It is now becoming accepted practice that test houses should have silencing equipment to prevent the escape of noise in the air stream which must pass freely through the structure. Sometimes as much as 2,000,000 cu. ft. per minute must be allowed for. The propellor type of engine test house—that is for piston engines—draws in the air through an 'intake' equipped with 'splitters' or longitudinal partitions of special sound absorbing material, and it is discharged through a similar 'exhaust'. Jet engines are supplied with air through 'splitters', and the jet is discharged through a relatively small steel apparatus designed to absorb noise without too much reducing thrust. This is called the 'detuner'. Jet turbines require both splitters and a detuner.

In some cases, as on crowded sites, the exhaust is taken through a right angle bend and discharged vertically upwards. This has the advantage that high pitched noise is then directed upwards. But efficient splitters can take out the high pitch components in any case, and they are further relatively reduced by air absorption. There are really two acoustic sets of requirements for test houses—long distance silencing and site silencing. For long distances the whole house is really a point source giving out in all directions. The distant noise at a mile has a 'roar' and resembles a storm. For site silencing the directing of the exhaust, and the shading of high pitched noise by intervening buildings, can be used by designers. In some test houses noise from the intake is noticeably less than from the exhaust, and this could be made use of where proximity of drawing offices, laboratories, etc., is concerned. For long distance silencing the prevailing wind, and refraction in low cloud conditions leading to increase of noise from NE to E, should be taken into account, in attempting to arrive at safe distances.

When asked what are the chances of efficient silencing at the source in the case of test houses, my own answer is that progress up to the present is promising, that very much more can still be done, and that if a wide application be made of the experience gained during the war a very great general improvement can be made. This improvement might soon mean that test houses for standard engines used in aircraft would not 'carry' further than heavy traffic. A leading acoustic firm informs me that they have accepted a contract abroad for a test house for 4,000 h.p. piston engines, and have undertaken to provide that at a distance of one mile the noise shall be no more than 40 to 50 phons. A word of warning is however necessary; the silencing involves the whole test house structure, with the potential transmissions and responses of all its parts. It is useless, for instance, to build highly efficient splitters in the exhaust but put a tin roof over the engine. The test house has the advantage over the plane that massive structure can be used. But complaints are more numerous and more serious when testing is done at night. Therefore the question of the length of the test run, and of works organization, so as to avoid night tests may be an important one. Alternatively, control of night testing may be necessary. It can be seen from this that if the future airports are to have regular test houses noise risks will be greater.

I have a communication on the subject from Wing-Commander Cave Brown Cave, professor of Engineering, University College, Southampton. He says: 'We must accept the undoubted probability that test houses for large jet units and also for turbine and reciprocating engine units will constitute an enormous source of noise which can only be reduced to a reasonable amount by energetic and carefully planned experimentation and by the expenditure of greatly increased costs in building over and above that which would otherwise be necessary. Unless this investigation is done, there is no reasonable chance of getting a low standard of noise nuisance within a good many miles of a testing station. To remove testing stations to this distance from residential areas or to restrict the hours of running, would constitute a very serious handicap on the development of aircraft power units which is perhaps one of the developments now most necessary (and promising) in the national economic interest. I am certain that the most necessary objective at which to aim is the really active investigation of this difficulty.'

**Local Noise Sources.** These, from the planning aspect, can be roughly distinguished from the regional noise sources. Local sources in order of urgency are: road traffic, rail traffic, playing children and schools, factory noises, domestic animals, noise from sports stadia and fair grounds; noises due to public services such as milk distributing centres. There is also the escape of wireless noise through windows in summer. These noises all come within the scope of the planners of the new towns and neighbourhoods. I shall not deal with them strictly in order.

**Road Traffic.** Some assessment of noise in connection with road traffic was done before the war and attempts at control made. In 1937 there was set up the Departmental Committee on 'Noise in the Operation of Mechanically Controlled Vehicles'. This committee reported to the then Minister of Transport. The chairman was Dr. Kaye of the National Physical Laboratory, and a number of measurements of motor horns were made by Dr. Davis. The committee recognized that motor horns must be loud enough to give adequate warning to other drivers in covered cars, that the measurement of loudness was not an assessment of stridency and of nuisance to the public. They recommended finally as a standard for horns that an average limit of 95 to 100 phons measured at 20 ft. would improve conditions for the public. There was also, at that time, the public agitation which led to police regulations prohibiting the sound of motor horns in built-up areas between 11.30 p.m. and 7 a.m. Those regulations still stand.

**Assessment of Traffic Backgrounds.** Some measurements taken about that time by Dr. Davis with an objective noise meter (given in QUIET, January 1938) are as follows: In the early morning in bedroom, facing street, having slightly opened windows with a moderately loud cheap clock ticking, the level is 30 phons. This is raised to 40 phons by a pedestrian passing shod with nailed leather boots. A moderately quiet car moving off may give rise to 50 phons in the bedroom near by. Again at night, the car and door slamming recurs, but in addition there are voices raised in adieux above the 50 phons of the car. Then

a noisy sports car giving a few bursts of engine racing as a preliminary to moving off could easily subject the sleeper (in the bedroom with slightly open window) to 70 phons.

By day pneumatic drills, riveters, noisy sports cars, reach 100 phons at 20 ft.; powerful motor horns 110. When vehicles accelerate rapidly mechanical noise reaches 90. Measurement of noise level in Oxford Street, Regent Street and Charing Cross Road give an average of 70 phons. Against Regent Street's 70 to 90 phons contrast the level taken in a parallel street screened from traffic of 55 phons. C. W. Glover, making measurements on Armistice Day, 1937, found that normal traffic noise in the Strand was 62 to 72 units which during the Silence dropped to 32 units. From comparisons such as these the ordinary 'Scale of Loudness' has been constructed.

In regard to traffic it is possible to associate very roughly characteristic loudness figures at the kerb with the four classes of road suggested by Sir Alker Tripp. Taking main arterial roads at 100 units; sub-arterial roads can be taken at 90 units; local shopping roads at 70; and local residential roads at 40. But here informed criticism might suggest for greater accuracy a note as to whether the motor horn is to be included or not. It is obviously included for the first three classes, but not for the local residential road of 40 units. This assessing and classifying of loudness levels, however roughly, seems to me to be the proper basis for future control. If we should take the quiet suburban street as a standard we can take 40 units at the (external) sill of a bedroom window on a street as a desirable limit. A window slightly open will reduce the 40 units to 20 units, which provides good but therefore vulnerable sleeping conditions (vulnerable because the quieter the background the more noticeable any intruding noise). This is a target for bedrooms: for living rooms clearly more noise is allowable. A comment here is the U.S.A. recommendation occurring in PRACTICAL STANDARDS FOR MODERN HOUSING, a report of one of the committees of the (U.S.A.) National Association of Housing Officials, 1939. To quote: 'Excessive noise, a factor much neglected in the U.S.A., is of serious moment in so far as it causes nerve strain and interferes with sleep. It should be possible to exclude noise from outside the dwelling to such a degree that within, the noise level shall not exceed 50 db, and a level as low as 30 db should be attainable in rooms used for study and sleeping.'

A useful discussion on the loudness of outdoor noise, and its reduction by distance, is given in pars. 20 and 21 of Post-War Building Study No. 14 'Sound Insulation and Acoustics' 1944. (H.M.S.O.)

If we take the 30 units for bedrooms *inside*, with windows slightly open, that would give us a permissible 50 units at the external sill. I suggest we accept for the moment a standard of 40 to 50 units at external sill of bedrooms. This would mean that a housing estate should be at least 300 to 400 ft. distant from a main arterial road. We have noted above that the distance of

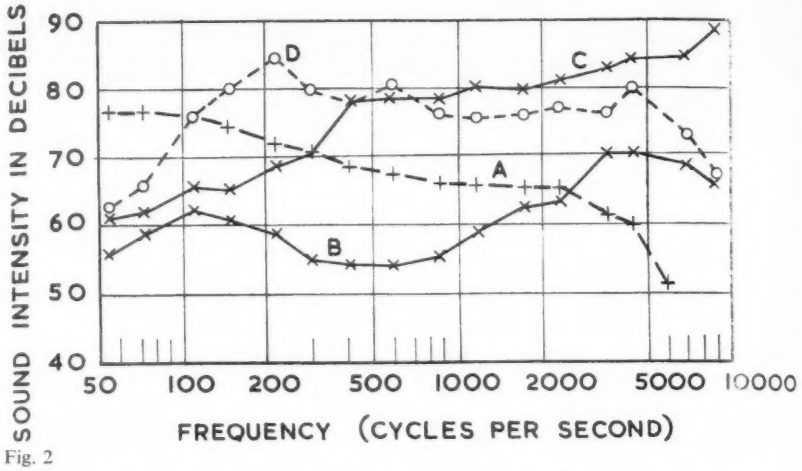


Fig. 2

100 yards was taken by the Chapman Survey as the distinguishing distance for '*nearness*' and that within that distance complaints went up rapidly. But here a word of warning. Clearly road traffic of goods in heavy lorries is going to increase enormously in the future and many more roads will have the trains of heavy lorries going all night. For such, a greater distance than 100 yards is desirable. The problem of the ring-road (or sub-arterial road) round big cities is a familiar one. It involves heavy traffic. In the inter-war period new houses were put up 40 ft. or less from the kerb. This in my own experience is not enough. You will probably agree with me that it is very much better to interpose open spaces and school playing fields as in the Moortown Estate plan, Leeds, or a golf course as at Welwyn Garden City. Where a ring road sector is not likely at any time to become part of a night traffic route, but has bus routes and day traffic only, then houses could come to within 100 ft. in my view. Control of motor horns on ring roads is desirable.

In the new planning there will, in addition, be the shorter traffic passages as from the ring roads to the various 'industrial areas', and to the railway station. How to keep these traffic tributaries away from the residential areas is one of the planners' jobs, very necessary from the noise point of view. At Stevenage the industrial area is well placed between the railway and the new arterial road. Since, with traffic noise, there is considerable reduction by shading, dwellings coming unavoidably near could be defended by a type of plan that put the principal bedroom on the side away from the noise. Another method is to put blocks of flats arranged 'end on' to the traffic at a distance of some 100 ft. and widely spaced.

Local roads for shopping may have as much as 70 phons at peak periods because buses and vans will be present changing gear. This, in my view, will provide a background suitable for a limited number of flats. The internal noises of flats are always a problem, and they are reduced by a sustained traffic background. Tenants would learn to sleep in a noise level of 70–20=50 units, and would then be shielded to a certain extent from internal noises in adjoining flats. These standards of traffic noise give us something to work on when approaching the problem of permissible noise in the new Industrial Areas.

**The 'Industrial Areas'.** In the model clauses for the preparation of schemes under the 1932 Act noxious industries were to go into a Special Industrial Area. This zone, as in the Coventry scheme, should properly go to the NE so that smoke and smell would not be blown by the prevailing wind over the planned areas. The noxious trades in the third schedule list are acid fume, smoke and smell producers; noise is not mentioned. Now when I am told that the reason for this is that there is no reliable means of measuring noise, I must reply that there is no means at all of measuring smell. At least I do not know of any smell units. The reason is that the new plagues of noise are not yet as well recognized as the old plagues of smell. I must point to some noise intensity measurements in Fleming and Allen's paper, 'MODERN THEORY AND PRACTICE IN BUILDING ACOUSTICS', where noise from a 13-in. circular saw, and from a woodworker's planing machine, are plotted against traffic noise (miscellaneous vehicles at 20 ft.) This is shown in the diagram, Fig. 2. Both the woodworking machines are some 10 to 12 db more intense than the traffic at middle pitch, where traffic registers about 67 db and the two woodworking machines about 80. In the higher region of pitch where relative sensation efficiency tends to cause nuisance, the traffic noise is only 60 db, but the circular saw at that pitch is nearly 85 db. Here probably we have one reason why most people would regard the circular saw as a nuisance, and why by comparison most people can get used to moderate traffic and can learn to sleep in it. The point is that if woodworking shops, sheet metal works using grinders, commercial door-makers, works using large air compressors, boiler repair shops, stamping works, are not segregated, but allowed under the new town planning proposals to

come into the trading estates, they may cause trouble. The problem bristles with difficulties for the planner. As far as one can see the new proposals considerably modify the older method of planning by use-zones. The tendency will now be to arrange a larger number of smaller 'industrial areas' and it will not be easy to isolate these by open spaces all round from adjoining dwellings. Many of the 'industrial areas' will already have residential property adjoining. This can be met, where there is room, by locating new noisy industries in the centre of an industrial area and not on the margin. Or they could be placed in positions already noisy, such as near goods yards. Where Authorities have categories which enable them to give or withhold consent to *any* new industry, control is attempted by a clause giving consent 'provided no objectionable noise is made'. But this is hard to define, and I have been asked recently whether any kind of standard noise limit could be quoted, and the provision made more stringent. On this I would make a suggestion as follows: That where residential property adjoins a newly scheduled industrial area there should first be a noise survey of the marginal area to ascertain what roughly is the average existing background at external sill both as to measured loudness and as to sensation efficiency. That is to say, there should be both objective measurement on a noise meter, and also subjective assessment by a team of observers. If a street should intervene this background might be 60 to 70 phons without motor horns: and it would be reasonable to limit intrusive factory noise at its peak to 50 to 60 as measured at any external sill on the street front. Where houses backed on to a new factory area the bedrooms, sheltered from the street, would have a lower background and a limit of 40 to 50 at external sill might be a necessary standard. This has a legal bearing, because as the law stands at present it is no defence in the legal definition of noise nuisance (given in 1930 by Mr. Justice Luxmoore) to say that the best known means have been taken to reduce or prevent the noise complained of, or that the cause of the nuisance is the exercise of a business or trade in a proper manner. (Vanderpaat v. Mayfair Hotel Co. 1930.)

**Noise Surveys.** There are, of course, difficulties in the matter of noise surveys. There is no form of objective noise meter which gives sufficiently good agreement with the average subjective judgement over a wide variety of noises to satisfy physicists as a standard. At the same time subjective assessments clearly have their weaknesses because different observers and different teams may vary. But in my opinion the pre-war work on motor horns has set an example; the noise meter then used gave a measure of agreement as between objective and subjective for that type of noise; and, further research might extend the measure of agreement to other types of noise, and eventually to a workable standard. There is great need for consent in the matter and research would be most valuable.

Two observers working together can measure noise out of doors such as loud aircraft, or sustained factory noise, by counting aloud at an ordinary conversation loudness (50 phons) and stepping the distance at which the sound becomes inaudible. In regard to assessing noise nuisance indoors a useful point is the proper hearing of telephone conversation: since telephone loudness is designed for comfortable hearing conditions, inability to hear is good evidence that intruding noise is above a permissible level.

**Railways,** as noise sources, are variable. Many city architects in industrial regions know that tenants quickly get used to railway proximity. But there are limits. A steep gradient up which goods trains come pulling at night is a disturber of sleep, difficult to get used to. A steel bridge is very noisy and should be marked on a neighbourhood plan. On the other hand a slight cutting will screen railway noise. On an average a safe distance of at least 300 or 400 feet is desirable.

**Railway Sorting Yards.** I have already referred to these as regional sources. In railway sectors where there is considerable passenger traffic movements of goods occur, and the goods trains are made up, and trucks sorted, at night. This means considerable puffing of locomotives and buffer noises, which can be very loud, and can disturb to a considerable distance. They are more disturbing than heavy night road traffic. Therefore a distance of at least half a mile is desirable. When in these sorting yards electric capstans are used the noise of locomotives is reduced.

**Playing Children.** Here is a difficult root problem having to do with flats, houses, layouts. Miss Baskett of the 'Society of Women Housing Managers' wants 'the avoidance of children's playgrounds placed close under the windows of flats, and also the avoidance of blocks enclosing a noisy courtyard.' Now this is from the point of view of the class of tenants who want some defence against children shouting. This is not a small negligible section but, according to the Chapman report, is the section that heads the list in size. It means that there would be a real increase in comfort if some relief could be found. But it is up against the powerful instinct of the mother to have her children within earshot and overseen from a distance. She can often detect the noise of her own children in the general din and assess whether the scream is a healthy one or a cause for alarm. For this reason doubtless the Liverpool Council of Social Service, and many others, favour building round a square so that the central space may include a playground for small children with smooth paving. Miss Baskett also suggests the placing of blocks of large family flats somewhat apart from those occupied by the elderly. This is, in my opinion, the right solution: it means the selection of tenants. Acoustically it is the *low level* paved court that causes the trouble. Raise the playgrounds on to the roof and there would be less trouble. But I do not mean the ordinary high railed roof space; it must be in the nature of an open-air gymnasium with walls 9 ft. high having loggias, nurseries, inter-spaces, all opening to the sky, and screened as a source by the 9 ft. walls: it would be the top storey. Since the noise is high in pitch it would be directed upwards, and persons below would be sheltered.

In the new plans one often notes that each group of houses has a play park within the sectional layout—with access from back gardens. This means that noise is at the back windows, and therefore that living rooms, to be quiet, should look front. The noise here will not be as great as in the case of courts to flats.

**Planting against Noise.** School playgrounds are noisy at certain hours, and the question is often asked whether planting is any use. If the trees are evergreen and planted to a width of 20 ft. I believe they can be contributory factors, useful in a general defence plan. Their screen effect is due to the high pitch of children's voices. One can get quite a good echo at high pitch from the flank of a wood in leaf. But deciduous trees are useless—the row of poplars, for instance. But firs planted in a belt—like a wind-break in down country—or close ilexes or Turkey oaks would be useful. The same might apply to a power sub-station with a high-pitched scream. See also 'Sound Insulation and Acoustics' par. 27.

**Other Noise Sources in Residential Areas.** In addition to power stations there are source buildings like milk distributing centres, also recreation buildings such as sports stadia which can be a prime source of nuisance. I would call your attention to a decision in the High Court, Chancery Division, in 1934, in respect of a dirt track complained of by neighbours which resulted in restrictions prohibiting speedway meetings for a large part of the year. Also planners should recognize that certain fields are traditional fair grounds and may become a source of loud noise for a week in the year. There are also skating rinks and open-air dance floors with loudspeakers. Trade schools in which woodworking machinery is taught are also potential noise sources: it is a pleasure to see in many of the new plans the schools given ample grounds of their own and set well away from dwellings. But in redeveloped areas this will not be the case owing to lack of room. There are also dogs' homes, veterinary establishments, and physiology laboratories, where the barking of dogs in confinement can be a serious nuisance; control in the siting of such buildings is important.

**Quiet Residential Blocks.** In re-housing the population of these islands we must remember that educated persons (of all classes) have their rights and deserve some consideration. There are middle-aged professional people who have much work and little sleep, there are the studious elderly, there are young people working for exams. in the evening. The menace here is the

barking of dogs and wireless noise from open windows in summer. Now many people in this long-suffering class would gladly pay a little extra in rent, not for the latest equipment, but for quiet conditions. This is not easy because an inconsiderate neighbour in a quiet cloister or small block of flats can often by means of a dog or a wireless, ruin the amenities. In blocks of flats it is found that the ordinary clause in the tenant's agreement that the tenant shall cause no unreasonable noise is difficult to uphold in the courts, because of lack of well-defined standards; but it can be done by a tenant's agreement having a clause whereby the use of wireless or gramophone is prohibited except under licence of the lessor. In London it has been found that tenants who desire quiet conditions will sign such agreements. I suggest that in every neighbourhood unit there should be one or two quiet blocks where dogs are not permitted and some such arrangement among tenants should be provided. For ordinary suburban housing the separating of houses by placing them alternately at opposite ends of the strip sites can be arranged, and a small sector of such houses ought in my view to be provided in the new towns.

**Siting of City Buildings.** The development of urban areas in the right way might increase the comfort and reduce the nerve strain of the city worker incalculably. The principle is simple: it is to reverse the old idea that the street front is the desirable aspect and instead to re-plan with as many working offices as possible on the sheltered side. It is quite astonishing how often in London a beneficial change could be made simply by interchanging room space as between general offices, directors, secretaries, board rooms, committee rooms all facing the traffic; and stores, cloak rooms, staircases, tabulating rooms, vestibules, lift shafts, all on the quiet side. A fundamental planning change is called for. In our pre-war London (other cities were just as bad) the practice was to sit at a business interview for an hour and get in some ten minutes of business between telephone conversations and the traffic peaks. One could not but note that good men and true, living under these conditions, got worn out before their time.

Another more fundamental change is that suggested by experts like Mr. W. A. Allen and others, namely that on devastated city areas the *insulae* or block areas should be re-built each as a whole and on the new principles of designing for light and for noise reduction combined. The principles are briefly: lateral penetration of light, alternating blocks, stepping back of fronts, and high narrow towers in the centre of the site. These principles will give extensive areas shaded from traffic noise or lifted above it. It is too large a subject for me to pursue tonight; I wish only to ask here and now whether city firms and London merchants paying fantastic rents will long endure the kind of working conditions compared with which the silver mines of ancient Peru were more humane, and the inter-communicating galleries of Bedlam more suited to a day's work.

## DISCUSSION

**Mr. Alister MacDonald** [*F*], opening the discussion, said he wondered whether we were all chicken-hearted, because we were afraid to put up with noise of some sort or another for some period of time, or living in a period of complete chaos because every example chosen by Mr. Bagenal and every illustration and description he gave, reflected on bad planning.

Surely one might be tempted to say there was not much that we could do about existing very much built-up areas; the changes that would have to take place were so tremendous that it would be very difficult. In the case of new towns, surely traffic roads, disposition of industry and railways and roads were going to be much better planned, and so the problem of noise would eliminate itself very considerably.

Mr. Bagenal had made a point about making surveys of what one might call lists of noise values and irritation values, and marking them on plans. He hoped these surveys would be made, just as topographical surveys were made of hills and valleys and gradients where water lay and did not lie, and he imagined this would be done, owing to the excellent work being done by the Noise Abatement League, of which Mr. Bagenal was such an excellent champion. He hoped that the Science Board would be able to disseminate amongst architects an appreciation of how noise worked and acted, so that architects and town planners who were engaged on planning might realize that this plotting of noise was just as important as the plotting of the nature of the subsoil, and all the other things they already do.

Mr. Bagenal had referred to business being conducted on sites that had the maximum amount of noise and irritation. We all knew noise and the irritation caused by it, yet we all persisted in carrying on and doing our work under the most ridiculous conditions. He thought we must leave it to the Noise Abatement League to make people realize the foolishness of their ways in not understanding the simple truth about noise, and we must ask the Noise Abatement League and other scientific groups to give architects information, not as lists of phons and decibels and things in such a way as to frighten them, but to give them pictures of how noise may act, so that, when planning and surveying future towns and cities, they could use all that information to the best advantage.

It seemed we could plan to control most noises, but there was perhaps one for which we could not plan, and that was the noise of aeroplanes passing overhead at all hours of the day and night and from all directions. Was there any available information, or was it possible for architects to start thinking of building houses which had sound-absorbent roofs like big mushrooms, or noise-catching umbrellas? Perhaps in this mad world of ours, in which we were becoming so over-civilized, we should have to design our structures so that not only would they keep out the ordinary elements, but keep out this new element of descending noise from the heavens. Could Mr. Bagenal give them a picture of the type of roof covering we should make to stop descending noise getting any further than roof level?

**Mr. G. H. W. Williams** asked for the Lecturer's observations on a speedway in a residential area. Did he regard the speedway as the noisiest sport?

**Mr. W. A. Allen** [*A*] said that in his paper, Mr. Bagenal had mentioned the problem of children's noise, and the problem of aircraft noise. He had been reading in the YORKSHIRE POST of a noise at Quarry Hill flats which the writer described as a roar coming through an approach tunnel, not at first recognized, but discovered later to be the continuous sound of reverberation of children's noise in the flats. The solution proposed by Mr. Bagenal, of putting children on the tops of buildings, had much interest, with one disadvantage, that the mothers could not see the children, unless the mothers had some occasion to go up there. There was an advantage in the mother being able to see the children frequently as she looked out of the window, and he thought the worst aspect of the playground was that it was reverberant with a hard paved area completely enclosed by high buildings, with a greater continuity of sound.

From occasional experience which one had of these problems, continuity was a feature of nuisance by noise, which was extremely disconcerting and very tiring. The same loudness in factories was not necessarily as great an annoyance provided reverberation was not there to maintain the continuity at a high level. He suspected one would get considerable relief if there were trees and openings round the court, and not a strict enclosure of any kind, and well furnished with absorbents. He had been charmed by a number of new terms introduced into the vernacular of noise, such as 'noise climate', which was an attractive way of describing something they all had to recognize.

**Mr. M. Hartland Thomas** [*F*] said that in the early days of the blitz a paternal Government had issued us with earplugs. That had been a complete psychological error: we did not choose to wear the earplugs because we had felt easier in our minds if we heard what was coming to us. The other day, looking at an American industrial newsletter, where they had summaries of many interesting gadgets, he had noticed a description of an earplug for defence against industrial noise. It was claimed for this earplug that it had a sort of valve in it, so that it cut out a very loud noise, which closed the plug, but let through conversation. He wondered whether it might not be what we should all be coming to some day.

**Mr. Bagenal** said he was much more optimistic than Mr. MacDonald supposed. He

felt the planners were all doing the right thing: they needed backing up, and needed help on the one hand from the physicists, and, on the other hand, from the Government. They wanted to know where to rely on controls, where to rely on planning safe distance, and also they wanted to know enough about the nature of noise to be able to make precise nuisance definitions.

The physicists were interested in this question of noise, and there was also a new Acoustics Group of the Physics Society which was to have an inaugural meeting at the R.I.B.A. on 19 February; all scientifically-minded architects, engineers, and professional men were invited to join that group.

He had mentioned the question of the roof and the children because so often architects who were doing big buildings and thinking about problems of that sort could produce a useful solution by some such means. The means he and Mr. Allen believed in was not to have container courts but to open them out; but the difficulty was that mothers wanted these courts, with their children within view.

The speedway could be a prime nuisance to residential buildings in its neighbourhood. It must be considered as a special building, and ought to be well out of the way. The trouble was that sports bicyclists took their silencers off in order to race, and races were started by pistol shots.

The matter of earplugs was much more important than one might think. We should have to get used to more aeroplane noise, for aviation was going to develop. If there were going to be privately-owned 'planes, and big civil airports with machines every half minute or so, we should no doubt plan very carefully, but there would be much more air noise than there was 20 or 30 years ago, and we must get used to it. There were some people who could not get used to it, and for them he thought the earplug or noise helmet—the kind of helmet the air pilots used—was quite possible.

The question of noise surveys was important, and needed pressing from the architect's point of view. We needed ideas of how the noise in air was going to affect the ground amenities, and much more could be done in that way than had been done in the past.

## ARCHITECTURAL SCIENCE BOARD NOTICE

**British Standards Institution.** It is desired to increase the number of R.I.B.A. representatives serving on B.S.I. technical drafting committees, so that there may be at least two representatives on each committee. The work would involve attendance at the Institution in London when the representatives of a particular committee are studying a draft specification. Names of volunteers for this work (which must be entirely voluntary) should be sent to the Secretary of the A.S.B.

When draft Standard Specifications, or revisions, are contemplated, it is the practice to invite comments from architects who are not on the panel of R.I.B.A. representatives; this does not involve attendance in London but only the forwarding of comments to the A.S.B., who pass them to the B.S.I.

If any architects outside the London area are willing to assist in this direction, will they please send their names to the Secretary of the A.S.B. It will be helpful if volunteers will indicate the subject in which they are particularly interested.

# Speech by the Minister of Health

## The Right Hon. Aneurin Bevan, M.P., at a meeting of the R.I.B.A. Council on 11 February 1947. The President in the chair

I WAS RATHER apprehensive about coming among the architects and I postponed my visit for as long as possible, until I had served an apprenticeship among the doctors and the building contractors. Now I feel that I am either sufficiently intrepid or sufficiently callous to be able to brave the austerities of this Council and to talk to you for a few minutes, not about the ramifications of the Ministry of Health, Sir Lancelot, because that would take too much of your time and at the same time intimidate my mind, but about some of the problems connected with post-war building.

It is inevitable, I am afraid, that in the circumstances following the cessation of hostilities we should first of all have to concentrate upon a type of building which, while it may arouse your sympathy, I am sure does not arouse your enthusiasm, namely, the very small cottage. We cannot, of course, devote our labour and materials exclusively to the building of cottages because there is other work that has to be done also, but we have lost so many cottages through bombing, so many others have fallen into disrepair, the needs of the demobilized soldiers are so great and the neglect of domestic building between the war years was so considerable that the larger proportion of our resources, both in labour and in materials, should first of all be devoted to the building of cottages. Consequently the Government decided at a very early stage that 60 per cent of our available building materials and building labour must be devoted to the building of cottages and that the rest of the claims must be supplied from the remaining 40 per cent, and the Government has adhered to that decision.

It is not always easy to implement Governmental decisions in a free society. We have to deal with self-motivating agents who have their own private plans and who sometimes pursue those plans despite the Government's decree. When we say that 60 per cent of the building materials and labour must be devoted to housing and 40 per cent to other purposes we can manage to achieve that division, but to distribute the 60 per cent is a much more difficult matter, because it has to be shared between repairs and new construction, and I do not always find it easy to bring about that distribution of the labour force within the 60 per cent which is desirable in order to get new buildings constructed as quickly as possible. We have, however, succeeded in making some progress.

I must be very careful in such an assembly as this not to venture on any generalizations that would arouse partisanship, but there is no reason at all why we should as a nation denigrate what we have already achieved. I believe it can be shown that our achievements in rebuilding after the war have been superior to those of any other nation that was engaged in the war. We must always remember that we are one of the very few nations that were in the war from the beginning to the end, and we emerged from it very much scarred and weakened and with an enormous accumulation of problems. But we have made some headway.

One of the difficulties with which I have been confronted—and I am sure I shall have your sympathy in this—is the fact that people in the present desperate circumstances, when so very many hundreds of thousands of them are badly overcrowded, will keep their minds fixed upon the *number* of new dwellings that we are able to bring into existence. This emergency, however, will pass, and we hope that before very many years are over we shall have broken the back of the quantitative housing problem; but we do not want to do it in such a fashion that, having done it, we have a qualitative housing problem left. I told your President at lunch time today that facts remain but the emotional association of the facts changes. At the moment there is a very considerable housing shortage and people are judging us by the number of houses that we build, but in 10 years' time, or even less than that, the emotional connotation of the desperate shortage will have been dispersed by time, and people will then be looking at our handiwork and will judge us harshly if in the meantime, under panicky pressures, we build ugly houses. Therefore I hope, and indeed I am sure, that the activities and influence of this great Institute will be devoted to keeping people's attention firmly fixed on the qualitative as well as the quantitative aspect of this matter.

It is because we are concerned about this that Mr. Forshaw, Sir William Douglas and I have decided that we should encourage local authorities and architects to pay scrupulous attention to the layout of the new housing estates. I would venture here, as a layman, to say something which perhaps to some extent trespasses upon your own territory, but, as every architect claims to be a politician, every politician can claim to be a bit of an architect. We inherit from tradition a number of generalizations, and some of our more fertile-minded brethren produce quite a large crop themselves in each generation. One of the matters about which we in the Ministry of Health are very apprehensive is that we are apt to lay down certain generalizations and to give general directions to local architects which

sometimes serve not as inspirations but as limitations, because when the architect as an artist (and a man is not a good architect unless he is a good artist) looks at a piece of topography he ought to be able to let the soil speak to him, but if he has in his mind too many generalizations about what he ought to do he will not listen to what the soil says to him. Because free artistry consists in particularity, it is in the locality that the art is going to find its roots and its expression, and in these days of general planning (and the planners are all about us) we have to be very careful that we do not put our housing estates into too common a mode, so that we shall see the same thing all over the country, wherever we go. The glory of our country consists in its diversification.

That is one of the reasons why I have impressed upon architects (and I hope you will support me in this) that we must try to get away, as far as possible, from this continual multiplication of the semi-detached house. We know the reason why it is everywhere today. It is—if I may use a tendentious expression—a bourgeois reaction against a plebian ugliness. Those of us who are acquainted with the dreary endless lines of streets that we inherited from the industrial revolution know that the main ambition of the nineteenth century Englishman was to get away from the street into a stucco-fronted villa, and very often he got into a fairly ugly one. It is extraordinary that people can live amongst ugly things and want to go from them to even uglier ones, and that a man can live in a beautiful old farmhouse and want to go to live in a red rash villa. It is true, however, that in the period between the wars social success seemed to reside in being able to evolve from the street into the semi-detached house and later on, if God continued to smile upon one's efforts, into a detached house.

This has resulted in the laying out of estates which are often indescribably monotonous, and we must, as far as we can, intersperse terraces and different sized groups in our housing estates. That, of course, challenges the imagination and the ingenuity of the architect in designing the layout, because it is much easier (I feel that I am being even more foolhardy in saying this) to build gracious crescents in Bath stone, three or four storeys high, than to build good-looking groups of houses two storeys high. In the latter case the relationship between the groups is rather more important than the line itself, because you get the proper appearance out of that relationship rather than out of the line of the terrace itself. I say that just in passing. I shall venture no further; otherwise I shall be saying something obviously foolish. I just want to emphasize that we think that the architect should, as far as possible, pay more and more attention to the layout of the modern housing estates.

I will venture to say this, that one of the principal virtues of our housing policy, despite what is said in uninstructed circles, is that in this desperate crisis we have not once more let loose the speculative builder upon the lovely land of Britain. If the speculative builder repeated, in the 10 years following the recent war, what he did in the 25 years between the wars, this country would be hardly worth living in, so we have kept him at bay. We have given him a little rope, but we have not let him go too far.

In the meantime we are pressing for the employment of architects everywhere, for the guidance of the local authorities. We are beginning to develop housing estates which I think will be models of their kind. In order to encourage this, we have decided to give medals annually to the local authorities and architects who have been most successful in this work during the year. There will be two medals for each region, one for urban housing and the other for rural housing. The Ministry's Senior Regional Architects, together, I hope, with representatives of the Royal Institute of British Architects and the Allied Societies, will be the technical members of the judging body. This, we hope, will stimulate local authorities to give attention to the æsthetic characteristics of their housing schemes and will also stimulate architects in such a way as to bring about a friendly rivalry in the quality of the houses and in their design and layout. We have already established a friendly rivalry in the number of houses that are being built, but we are rather afraid that, if that rivalry over-emphasizes the number of houses, we shall not have enough emphasis put upon the quality of the houses and their layout. Therefore we are instituting this competition as a means of focusing the attention of local authorities on the qualitative and æsthetic aspects of their work. I trust that you will be able to co-operate with us in this, because I should not like to undertake the awarding of the medals myself.

I know that many of you are straining at the leash. You want to do more ambitious work than merely putting up small houses, but, as I said earlier in my address, we must devote most of our energies to that work now. Once we have overcome the worst of the shortage, the nation will give us a little breathing space. If we try to go ahead with more ambitious projects at the moment, an impatient nation will force us away from them, so we must take the sting out of the need for houses before we can obtain from the nation sufficient surcease of pressure to enable us to undertake more ambitious architectural projects.

As you know, I am responsible not only for housing but also for health work, but before I mention that I should like to say that there is one other question that has been present in our minds, that is, the possibility of building in local stone in some parts of the country. That is not easy. I am having an investigation made in one rural area in Oxfordshire to ascertain what the possibilities are, because I frankly confess that, if financial considerations and also the availability of skilled labour permit it, I should very much prefer in the area of the Cotswold stone, for example, to build in Cotswold stone. There are other considerations than the æsthetic ones, but the æsthetic ones must be given their place in the matter.

We have ahead of us a very ambitious programme for the building of hospitals and schools. There will be plenty of work for our architects for many years to come. One of the most deplorable features of our social inheritance is that our sick people have to be taken into institutions that look more like prisons than hospitals. Some of the poor law infirmaries that we inherited from our benevolently-minded forefathers are really a disgrace to mankind. We have to pull them down and put up good modern hospitals and maternity homes in their place, and we have to do that in most parts of the country. We also have to add to the present number of hospitals. There is, therefore, a very ambitious vista of ever-widening activities opening out before you. Schools, which do not come within my special department, will also have to be built. Therefore I hope that before very long your energies will extend beyond the small cottage to much more ambitious architectural projects, and in this connection I should like to suggest that attention should be given to the use of non-traditional materials.

I have not had much opportunity of going abroad in the last 18 months, but I imagine, from what I have heard and from what I have been able to see, that no country is making more experiments in non-traditional building materials than we are in this country. These new forms, which are called prefabricated, though most of them are not prefabricated at all, have come into the market because the price of the traditional house is very high. I dare say that if the price of the traditional house could be brought down these new types would not survive, but in the higher price market they are competitive, and out of this competition is growing the use of building materials of a type to which we are not accustomed. The architect and artist looks at these materials askance sometimes, because he thinks that they lack flexibility, and often they do, but I believe that some of them, after they have been in use long enough for all their qualities to be perceived and developed, will provide new forms of building material with as much flexibility as brick. Again I am trespassing on ground that is foreign to me, but I believe that the bigger buildings in brick always have a dangerous tendency towards monotony, because the unit is small. Some of the new forms of building materials open up the possibility of having a much larger panel, and it therefore seems to me that they should be experimented with a good deal more. I have seen some plans produced by architects which go to show that they are not yet fully seized of the possibilities of these new forms of building material, and I hope that you will look at them sympathetically. It is quite true that unless we can bring down the price of traditional houses the unconventional type of building will entirely drive out the traditional building, and I do not believe that on the whole that would be a satisfactory position.

I have now said all that I want to say to you. I have been very happy to come here and address you. I felicitate the President upon his office and upon his recent well-deserved distinction, and I trust that in the years immediately ahead we shall have many opportunities of fruitful association.

# Partnership and Profit-Sharing

Informal lecture-discussion in the series on Office Organization, at the R.I.B.A. on 30 April 1947. Speakers: Mr. G. Grenfell Baines [*A*], Mr. Raglan Squire [*F*]. Mr. Howard V. Lobb [*F*] in the chair

**The Chairman:** This evening we are gathered here for the third in the series of informal lectures on Office Organization, and the title tonight is 'Partnership and Profit Sharing'.

I am sure you will agree with me that this is a subject which has been discussed many times recently, and it would appear from the general feeling in the air that everyone from the managing director of a large commercial corporation—the principal in the case of an architect's office—down to the latest junior employee feels that if he is not just a cog in the wheel but a partner in a vital enterprise, output goes up and you get the best out of people. That interest is essential after all the upsets of the war.

There are, of course, many clear-cut schemes of co-partnership and profit sharing, and there is the more general approach through bonus payments. Lastly, however, and perhaps I may say fortunately, we have not yet either ascended or descended to the level of the great experiment of nationalization which can be regarded by some, at any rate, as a form of co-partnership.

We have with us this evening Mr. G. Grenfell Baines and Mr. Raglan Squire. Mr. Grenfell Baines is an architect with a large and flourishing practice in Lancashire, and Mr. Raglan Squire who has, I feel, the distinction of having added a new word to the English language, namely, Arcon.

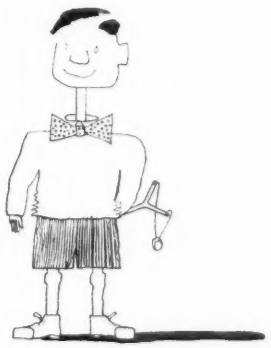
**Mr. Grenfell Baines** [*A*]: As this is the first time I have been in this position at the Institute, may I begin by saying that the occasion affords me quite an amount of pleasure as well as the usual degree of concern. My pleasure is enhanced by the fact that I am to be allowed to talk about Partnership and Profit-sharing, and our firm in particular, a subject in which I have a strong natural interest.

My talk will be in two main parts. First a brief review of what may be called the three Rs of co-operation—Relationship, Reward, and Responsibility. Then I will tell you of some methods we have evolved to meet the ideas we hold. Most of the views I am going to express are shared by all or the majority of our group members, although some will be personal and therefore not agreed policy as yet.

Any statement of faith about aims involves a risk of reiteration; ends are almost always common ground, but I must take the risk of giving you our views about Relationship, Reward and Responsibility in order to make a suitable setting for the history of our firm.

I have seen the edifice of architectural practice from the lowest invert level to somewhere above ground level. I have worked as an assistant in large and small public offices and large and small private offices. For a few years I have been the elected chairman of a fairly large firm, and for over 20 years I have been observing and interesting myself in relationships, for only out of right relationships can we hope to evolve the right arrangements for sharing the results and responsibilities of our work.

One early conclusion that I have not wished since to modify was that all who choose the profession of architecture do already share in a number of things. We have a common mistress, for while architecture may be the mother of the arts, she is



. . . the latest junior employee . . .

certainly the mistress of all who decide to tie their destinies to her. Did I say we shared a common mistress? I beg her pardon. I should have said an uncommon mistress.

Sharing so much we also share the common responsibility of providing society with a fundamental requirement—shelter. By that is meant not merely soundly constructed shelter, but shelter with grace, and today particularly we need to provide it with efficiency and despatch.

During the years I was an assistant it seemed to me that sharing stopped at the stage I have just outlined. We shared academic status, membership of the same professional union and all that involved, and irreverently at times I wondered if our bosses had taken their full share of the call that part involved. However, it was quite clear that architectural practice provided other things to share, although one's position as an assistant did not somehow provide the same keen sense of participation as we experienced in the examination room. I think that is probably one of the reasons why students seem to be more interested in the possibilities of Group practice then established qualified men. Instinctively they want to preserve the setting of sharing joys and miseries, achievements and failures, which the school provides.

My earlier remark about the assistants' view of the relative proportions of participation before and after qualifying brings me to the second R—Reward, and with it Recognition.

We would hardly be human if we took on our jobs without thought of adequate reward, and while I wish to avoid any general disparagement of the employer/employee set-up, I must say that my first views of co-operative partnership were conceived in that atmosphere. There we were, a body of men sharing equally in professional status, yet conducting our affairs in a way which had all the inequalities and disadvantages inherent in the employer/employee relationship.

There must be many architectural organizations where a delightful state of relationship exists between the boss and the assistants, where the boss calls the assistant 'old chap' and the men have almost found a substitute for 'Sir'. But could it be truly said that these circumstances, plus even an adequate salary, gave the assistants, particularly those with some years of service, a fair share of what they were hoping to earn?

Before trying to answer this question, I ought to try and define my interpretation of the term 'reward'. For all who sincerely practice architecture as a calling—and to be fair most of us do—the best part of the

reward is the joy of seeing the result of creative effort. I mean the building part of it and not the client's cheque or the wage packet.

As architects are human it is only natural to want to share this joy with others, not only one's wife or parents, but the world at large, or at least those whom they know. They want them to know that they have designed this particularly good-looking building so that they may share in the pleasure of associating them with the conception, and in giving them the praise or otherwise. Most of all does the designer hope that the user of the building—the client—will know of the part he has played in producing it.

I put recognition as an important part of the reward, because of its very intangibility which can easily be lost under fat pay packets and bonuses, office outings and other soporific symbols! When an architect is conscious of recognition, first in the eyes of the office then the client and the rest of the community, he begins to live; but he does at the same time need to exist and maintain his family responsibilities. To do this demands a share in financial rewards. This may be covered by a good salary and bonuses, but if proper relationships are to be cultivated it means more. It means the knowledge of what that share represents in relation to the firm's profits and other members' shares. It also means full knowledge of the firm's financial position, favourable or otherwise, so that security at best or the realization of one's fears at worst may be enjoyed.

Therefore, full reward requires (1) Opportunity to create within the client's requirements and a member's ability; obviously most reasonable men would refer to the opinion of a colleague with greater designing powers. (2) Recognition at all levels. (3) Full knowledge of finances as affecting the firm and the individual; the latter does, of course, exclude official architects—who have other worries.

These are perhaps the obvious things to share because they are pleasant, but there is the third R—Responsibility. Just as reward goes beyond finance so does responsibility cover more than the obvious requirement of working hard and seeing the job through.

The art of sharing responsibility involves greater effort than unilateral procedure. The fact that one has greater potentialities by being one of a team involves more discipline and self-control than if one's actions were governed by personal volition. This loyalty to the ideas and ideals of the firm as worked out collectively, even when personally you may not agree with them, is essential. Finally, the term responsibility calls for more than a maintenance of the original ideals. It demands their continued development and advancement together with all the effort and thought involved.

I am now ready to give you our views on getting and doing a job. When I was an assistant I used to think that getting jobs mattered most, and that doing them was routine. I thought getting jobs was arduous, dangerous and nerve-racking, but doing them was a safe and quiet occupation. My reasoning was simple. There was I, an assistant. I could do the jobs, more or less, but there was the boss, the only one who could get them. That was why he was the boss. Most of my assistant friends assured me that I had the wrong idea, and since I became something of a boss myself I have decided that they were right.

Getting jobs, whether by the hard delights of the chase or by the soft satisfaction of a letter of recommendation is pleasant and exciting. Doing the job is arduous, difficult and exhausting, and in the long run, doing them well is absolutely essential to getting them. Only in the early stages of a practice does getting assume any importance, and then, more often than not, one is as likely to marry into a job as merit it.

Our Group, as we call it, developed in 1938 from an association of three one-man firms. There was George H. Broadbent who was continuing a practice largely established by his father, Harry Walters, who had started his own practice a few years earlier, and myself who had just finished a period of school training after eleven years working as an assistant in various offices. Apart from our common occupations and the fact that I had known Walters at secondary school, we knew little about each other; after a short acquaintance we realized that by sharing premises and staff, together with experience and abilities, we could collectively give our clients better service and house our activities more comfortably and commodiously than if we remained on our own.

For over 12 months we paid agreed shares of expenses plus agreed fees to each other for personal advice and help, while we retained our own clients, nameplates and notepaper, drew our own fees and kept separate banking accounts. This was a valuable transitional phase which saw a quiet cementing of friendship, trust and respect.

Then came the war with its disturbances and, in our case, fortunately, a tremendous increase in work. The conflagration turned the cementing process into welding. We had to get extra staff and concentrate on one end. For a while we had only one client but that helped in a way. We all worked very hard with a common purpose and, as in many phases of war effort, the intense urgency of the situation helped us to draw more closely together so that in 1941 the Group was born. It consisted of the three original co-practitioners, two qualified school-trained assistants, and our lady secretary.

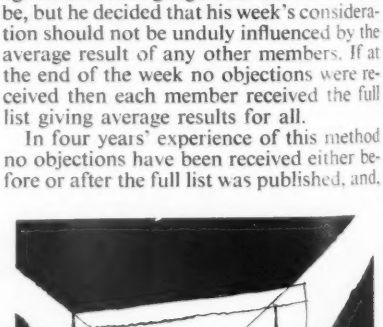
Our first step was to form a joint account to be known as the 'Group Account'. We also decided that all the jobs on the books, with a few exceptions, were to be group jobs, the fees from which were to be paid into the Group account. The fees from the exceptions were considered as a contribution towards goodwill, a consideration for which I have always been grateful.

Until the establishment of the Group account, wages and expenses had been met by one of the original three, the other two reimbursing at quarterly settlings; but under the new arrangement reimbursements became unnecessary. We were partners in the fullest sense.

'As architects are human it is only natural to want to share this joy . . .'

After we had formed the Group we asked our accountant to prepare a balance sheet showing the financial position of the firm and its expected profits for the first year. In the meantime, members had gone on drawing nominal salaries, the three employees their agreed wage and the three practitioners a sum sufficient to meet their domestic commitments. An accountant's picture of our finances was presented about a month before the end of the financial year, and from that we were able to decide what our total profits for that year should be, and what further drawings on fees due would be necessary to give us that total. With that knowledge each member was given a week to decide how much he should have as his share; not only that, but he was asked to say what he thought should be the share of each of his colleagues. These assessments were to be prepared and handed in to G. H. Broadbent and myself and members were free to type them and make them anonymous, but it is good to say that at no time did anyone take advantage of this. Broadbent and I then worked out the average assessment for each member who was giving the result of his own share only. He retained this for one week's consideration during which he was free to lodge an objection. He already knew what his own figures were and from his average result could gauge what the rest would be, but he decided that his week's consideration should not be unduly influenced by the average result of any other members. If at the end of the week no objections were received then each member received the full list giving average results for all.

In four years' experience of this method no objections have been received either before or after the full list was published, and,



'. . . office outings . . .'

if I may take a personal observation, to my gratification I can say that my average has always exceeded my own assessment and even when, as part of an equalizing scheme, I have had to accept a reduction, it hasn't been quite as much as I had been prepared to accept.

We preserved this personal assessment system when admitting three assistants, one of them a quantity surveyor, in 1942 and for three years after. All the time we had before us the ideal of gradually equalizing financial rewards so that whereas on the first assessments the highest figure was two and a quarter times the lowest, in 1945 it was about one and a half times.

In the year 1943-44 we divided the total profits into two equal sections—one we called salaries, to be the personal property of the members, and the other was called bonus and it was agreed that when subdivided and distributed each member should contribute the nett amount, after tax deduction, of his whole share to a Group Reserve Fund. A separate account was opened, cheque signatories appointed and agreements reached as to how the fund should be invested and used. At first the shares varied as the amounts of bonus assessments, but this year we decided to equalize all but our secretary's share. We decided that if a member wished to leave us he would be entitled to liquidate half of his share in the reserve on leaving, the remaining half to be left to his name for three years during which he would receive 5 per cent interest. If he had not returned to the Group after three years the half-share was to be left in the fund and credited in equal parts to the remaining members. This decision does, to some extent, act as a balancing factor against hasty decisions.

In 1945 there was a general feeling that the assessment principle had served its purpose, at least as far as salaries were concerned, and a Committee of three was appointed to draw up a sliding scale designed to bring about equality of salaries within a reasonable time—it is seven years by which time the youngest members will be 38, and the oldest 53.

The basic salaries for this scale were the results of the last year's assessment figures. The decision to dispense with our assessment principle was not entirely unanimous and there was some feeling that it should be retained at least in the distribution of bonuses. That year we didn't draw bonuses but did last year, when there appeared to be such unanimity for equal distribution that the use of assessment never arose. I will refer to this later. Our scale of salaries also took into account a commencing salary for new Group members together with the advances necessary to bring them up to the maximum.

While we hope that the position of the firm will be able to maintain the scale salaries and increases, that will depend on our continued prosperity as the increases in lower ranges have to be met—at the moment all the salaries are in the four figure range—some of them just, but the maximum takes them nicely over four figures. One addition was voted, for which I am grateful: it was £200 per annum for the Chairman.

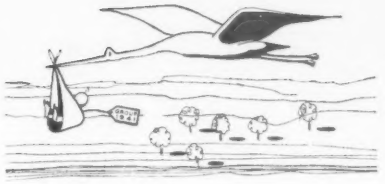
So much for the financial aspect. Each member knows how the firm is faring financially; he knows his own and his colleagues' shares in the profits and he has the full figures for the reserve fund. I have dealt with it first, because on the whole we have devoted most of our time to it—being practical people—as I expect most of you are, too. Recognition also has received a great deal of consideration: the names of all the partners are on the firm's notepaper and drawing sheets. In addition, each member has personal notepaper of more or less orthodox form except that in small type just below his name and qualifications are the words 'Member of the G.B. Group'. Even where the Group's name figures on the appointment agreement the member who is in charge of the job can and does send his more personal letters, say to the secretary of the firm or clerk to the council, on his own paper. He also signs his name as the architect over the top of the firm's name on all drawings for the job. Some large jobs are mainly the result of collective effort, particularly in design, and in this case the firm's name only will appear.

When an approach to the firm is made, we first decide who will handle the job. He is then introduced to the client and henceforth attends all meetings and deals with requirements, answers all correspondence as the architect member of G.B. Group. Thus we hope to preserve the sense of personal participation and responsibility so necessary for the satisfaction not only of the professional feelings of our members but of the client.

Also, all members display their personal nameplates, or will do so when decent plates can be made again. Likewise they all display their diplomas in the office. Indeed, we encourage our assistants to do this though some perhaps naturally prefer to keep them at home.

We take our responsibilities jointly and severally and try to keep headaches to ourselves although we frequently ask the opinion of other members. Our general aim is to use the firm's resources to satisfy the client's job which we are handling without taking too great a share of our colleague's time or the available capacity in the various departments.

We have talked many times about sharing our leisure, but so far we have been so preoccupied that none of our ideas has yet been put into practice. We do hope before long to commence working an idea evolved by Tom Mellor which would allow a member three to six months' leave for the purpose of conducting an agreed research programme. This leave is granted on the understanding that the resultant books and pamphlets will be the property of the Group. All expenses and salaries of the members concerned are paid, and they are free to decide whether or not they will take their wives and families, although their expenses would have to be met out of the member's own pocket. We might commence that this year if the building industry can become so organized once more as to enable us to devote more of our time to architecture and less to



'. . . the Group was born . . .'

activities usually pursued by builders' merchants and civil servants.

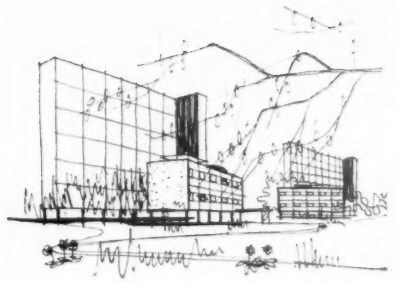
I want now to give you some personal impressions and I will explain to you how parts of this plan have worked out; I think we can say quite truthfully that our way of working did produce a most happy atmosphere in the office, particularly in the early days when we were somewhat crowded together and forced to work long hours at high pressure. This feeling was common in many places of war work, and it may well be that we were fortunate in having most favourable conditions in which to plan our ideas. Then we always had plenty of money to share—at least, plenty by the standards we decided adequate for normal comfort and contentment. There was no spare time to share, yet all willingly took their full share of the responsibilities and worked up to their capacities. There must have been something about the happy atmosphere of the office, because it was noticed by new assistants, travellers and firms' representatives who had experienced the atmospheres in other places.

It is undoubtedly inspiring to know that you can consult a number of qualified colleagues on any problem and get the best of their talents into your own ideas. Clients, especially big firms, appreciate this, and I think it can be said that some of our biggest clients were attracted to us by the Group idea apart from the ability we could offer.

For our competition work we have been able to put a strong team into the field, and not without results.

These factors are all on the credit side and indeed there are many other advantages, but I will not name them now because I want to give you some of the snags. While

'All members display their personal nameplates . . .'



'Our responsibility to create the environment'

the war lasted we were held together, like many others, by an overall purpose which transcended our daily duties. The momentum of our war effort carried with it the Group ideal and steadied any wavering tendencies. But ever since the war ended the changing state of society seems to have affected us. While we still work efficiently as a firm, it is clear that our purpose has weakened as conflicting loyalties compete for allegiance, and this brings me to what I think is one of the chief difficulties of the sort of co-operative partnership we are trying to evolve. It is the maintenance of a common working policy.

You will remember that two of our original three had already established practices. These practically died out during the war, but today all the old clients are giving various commissions which demand a great deal of the personal attention of the two members concerned. As most of these jobs are very small and not remunerative in terms of paying a big firm, it follows that this diversion of big job capacity to small job production has brought about a serious loss of efficiency. In addition to this, the other members are being approached as individuals to do jobs of varying sizes.

As a result we have moved from a situation in which all were sharing responsibilities on a few big jobs to some being interested in a number of small jobs because they have been asked to do them by old clients or personal friends. We have become, or are becoming, like the rest of the world, a group of individuals. Our problem is in fact similar to the problem of the rest of the world in that it is the inherent problem of democracy. It is a question of finding the best way of combining to realize the full power of unity without having, in the process, to mould individuality into a machine part. We hope, like others, to solve our problem and to enjoy the best of both worlds. Some may decide that that is an impossible quest, and that a satisfactory degree of both is unattainable. In fact that has already happened in the case of one member who will re-establish his one-man practice in April of this year. Naturally we all regret this step, but we go forward hopefully remembering that change is the essence of development.

Once you believe in the Group idea you feel it should expand. When it does not, you feel frustrated and, to be quite honest, disappointed in yourself. We got to the stage where we were criticized because the firm had too many hopes. By creating a strong feeling of participation we released powers which normal conditions of employment keep in control. In their zeal to take responsibilities the different members of the firm gave voice to different opinions at different times. Thus the staff, and later contractors and those outside, began to wonder who was the boss, and as they looked at it from their angle they could not be blamed for criticizing.

Gradually we stabilized, but even as we did so we began to realize that as soon as we began to want to make it a closed shop we were losing the original idea. From a group with great potentialities for revising relationship within the profession we were turning into an ordinary firm with a large number of partners.

Circumstances, however, provided what may turn out to be the solution. A large commission from new clients in another town, together with the fact that this was the home town of one of our members, prompted us to open a branch. We transplanted two of our members with complementary abilities and they have successfully conducted a practice there for two years.

This new office has been so successful that we have been encouraged to think of opening other branches. Only by this natural method can we hope to grow in influence yet, at the same time, retain that essential quality of personal contact.

The war, unfortunately, upset a scheme for the establishment of an assistant group member class, but now we are getting assistants back and we hope to make a move in this direction. Incidentally, we have made it a rule that a fully qualified man must be with us for at least two years before he can be invited to become a member of the group.

I conclude where I began, with relationships. Everywhere men are today seeking to build new relationships. They know that right relationships are the only safe foundations on which to build our society and a new world. During the war our firm had the dual aim of contributing to the war effort and developing new ways of working. Today architects have the chance of a dual aim, the completion of the reconstruction programme and, in so doing, the reconstruction of relationships. Many ways will be evolved. We know that our way is not perfect; but however many different ways there may be, the aim will be the same, namely, the improvement of the status and sense of participation of every one of our members. It will prove to be the surest way of improving the status and degree of participation of the whole profession in the life of the community.

Our Art is justly called the Mother of the Arts. Our responsibility to create the environment in which a better life may be lived is one of which to be proud. The rewards will be great. May we be equal to the one and worthy of the other.

**Mr. Raglan Squire** [*F*]: Mr. Grenfell Baines' description of the way in which his group has been built up was one of the most inspiring things to which I have listened for a long time, and I should like to congratulate him together with the members of the group on their achievements.

I feel that a lot of what I had prepared to say will almost come under the heading of what Mr. Grenfell Baines calls 'soporific symbols'! When I was first asked by the R.I.B.A. to talk on Partnership and Profit-Sharing I thought it was a jolly good idea, and I replied that I would. That was last August or September. A little later on, in October I began to think the subject was a bit tricky, and I wondered what would happen if half the staff arrived and asked for a half share of the profits! When the New Year arrived I realized that I had to get down to the business seriously, and as a result I have made one or two definitions. The subject we are discussing is Partnership and Profit-Sharing, and I have endeavoured to analyse those two words.

The word 'Partnership' has many meanings. There is the legal understanding which defines partnership as a group of individuals who get together and share responsibilities, sign agreements, and make themselves jointly responsible for profits, losses, the financial stability of the firm and all commitments entered into.

On the other hand, the word is used very loosely. A certain very famous store term themselves a co-partnership on the scale of modern industry, but I remember once asking one of the assistants what it was like to be a partner in such a large concern, and she did not even know she was a partner! The word is used in many different ways, but I would define partnership as a group of two or more people working together to achieve a common objective. That is a broad sort of definition, but I think it is one with which Mr. Grenfell Baines will agree.

If we go back a bit and consider how the profession has developed during the last 50 years, we see that in the nineteenth century there was the big architect who was known by his own name and who had a number of people working for him. The firm was controlled by the personality and individuality of that one man who was a well-known architect. Then, later on, two or three architects of that calibre joined together and formed the traditional sort of partnership, rather along the lines of the legal interpretation of the word. More recently there have been bigger groupings of architects. There is the Grenfell Baines Group, another group in South Wales, the firm of Tecton and my own firm Arcon.

'. . . periodic staff meetings . . .'

The names do not give a great deal away, but they are group names under which a lot of individuals can operate, and as group names they take away the individuality of the brilliant and famous architect.

It is my opinion that this grouping process will continue, but I think it is very important that they should be joined together and work on the wider implication of the word 'partnership' which I have tried to define. So long as one tries to run a group of this sort along the old fashioned lines of partnership with agreements and questions of goodwill to be sorted out, it will be impossible to achieve the sort of arrangement which Mr. Grenfell Baines has outlined.

There are two points I should like to mention in connection with the question of partnership. The first is the relationship of the staff with the client, and the second is what I call carrying the staff with one. Whether the employee be a senior or junior I think it is vital to hold periodic staff meetings. We hold weekly meetings with the staff when we discuss all sorts of questions ranging from the jobs in hand to questions of welfare and problems of administration.

With regard to the first point, it seems to me that the handling of jobs can no longer be done entirely by the partners or principals. It is absolutely essential to delegate some of this work. No one man—or two or three—can handle all the work that is going on to keep 50 draughtsmen busy and the only efficient way of dealing with that problem is to appoint a senior member of the staff and say: 'You are responsible for that job. Take it over and handle it in your own way'. When you have handed it over, do not, as they say in the forces, try and fight your junior commander's battle. If you delegate a job, leave it to that member to get on with and only interfere if there is real trouble brewing.

Now I come to profit-sharing which also needs defining. In the generally accepted sense of the word shareholders in a company are profit-sharing. To take it to the opposite end of the scale, if you give a good party to members of the staff out of the profits—as we did—that is also profit-sharing. I define profit-sharing simply as this: participating in an enterprise and reaping a reward equal to one's contribution.

Before going much further, however, it is necessary to define the meaning of 'profits'. In small businesses the principal often keeps his cheque book stubs and if at the end of the year there is so much money left in the account, then that is a profit. That is a very good way. In fact, if you do not keep the stubs it is better still! In some larger firms the same principle is adopted except that more books are kept, but there is no proper assessment of each individual job in the office. There is simply so much money coming in, so much going out, and at the end there is an amount left which is profit.

In certain firms—my own firm particularly—you can assess the profit made on each particular job without a great deal of trouble. We have a system whereby every draughtsman working in the office fills in a time sheet each week inserting the name of the job and the number of hours spent on it. Then the overhead rate, which includes everything that is not draughtsmen's time, is added so that we can tell the cost of any job in the office. Similarly, we know what our fee is going to be and the period of time we can spend, so we are able to determine (*a*) how much the job is costing and (*b*) how much profit is being made. Then at the end of a job it is a simple matter to add up and calculate the profit of each individual job. Therefore, profits are really those sums left over after all expenses and overheads have been taken into account.

The old-fasnioned way was for the principals of a firm not to take a salary but simply take what was left over after the payment of expenses. In my opinion, in any large firm the partners should take a salary out of the profits and leave, available for distribution, what I call distributable profit. This distributable profit can be utilized in

'. . . happy, contented, keen . . .'

many ways. It need not necessarily be handed out in the form of cash. It can be handed out as bonuses or used on staff welfare or equipping the office. We take a great deal of trouble to get decent lighting and decent conditions for working which are equally important contributions out of profits as the handing out of cash bonuses.

I do not want to take profit-sharing much further than that, but I would just point out one of the difficulties. When a senior member of the staff is brought in on a profit-sharing basis that is all right as long as you are making good profits and the firm is expanding. What happens, however, if there is a financial slump and the firm begins to contract? The question is then whether that member will be prepared to share in the losses. If he is prepared to share in the losses, he then begins to feel that he has a right to a say in the policy of the firm, because if he is liable to lose some money, due to the fact that a certain decision is taken, obviously he desires to have a say in that decision. Therefore, I find it very difficult to see how any large number of people in any big organization can be brought into a profit-sharing arrangement.

I think we are rather liable to get led astray not only in architecture but in all spheres of life by the use of words. Everything changes so rapidly that words quickly get out of date. It is the ultimate end that matters, and that end, from the architect's point of view, is to see that good work results. That implies that members of a firm shall be happy in their work, contented, keen, enthusiastic and hard working. It is a great mistake to think that means themselves will necessarily achieve the end.

**The Chairman:** I am sure you will all agree with me that we have listened to two very interesting talks. The possibilities of these schemes of profit-sharing or co-partnership spreading has been running through my mind, and I was very interested to hear in a broadcast on Friday last under the heading of Midland Parliament that, according to the MINISTRY OF LABOUR GAZETTE for August 1939, there are only about 261,000 people in industry and commerce in this country who are tied up with schemes of profit-sharing and co-partnership,as against a total of something like 12 million workers in the country.

There was one other interesting point, namely, that in the nine years preceding 1939, which was the last year for which these figures were published, the businesses having schemes of this kind had fallen from 517 to 390. In view of that I should like to ask Mr. Grenfell Baines what he considers to be the possibilities of this form of practice spreading.

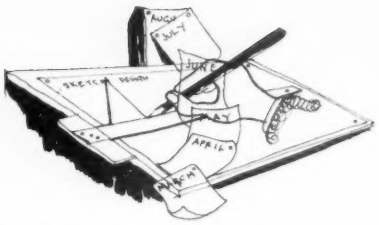
I am sure you will all agree that the first great test of any scheme is whether it produces better architecture. It seems to me that one of the great disadvantages in architectural practice, from the point of view of the medium size private practice, is in the overcoming of booms and slumps.

**Mr. Grenfell Baines:** With regard to the fall in number of the businesses which had schemes of the kind mentioned, during the years from the depression up until Munich, I think that was a reflection of the lowering of the moral tone of this country. If there is a real feeling of participation I think you will find that people will be willing to take the lean years with the fat.

**A Speaker:** I have listened to what the speakers have had to say with great interest, but I think there is likely to be some confusion on this subject. I speak as a member of a firm which is generally supposed to be a Group—Tecton—which was, I think, referred to as being a large co-operative firm. We are not large. In fact, we are very small as architectural firms go. We have existed for some 17 years now in a continually critical stage, but I am very glad it has existed in a critical stage and hope it will go on that way, because I think it is a sign of growth if you are in a critical stage and are surviving it.

There are two aspects of group work as I see it. The first is the pooling of resources, profit-sharing, accommodation and so on, and the second is the question of actual architecture and design, a subject which has not been touched upon this evening. It is a problem which, in my particular firm, we found considerable difficulty in solving.

Who is going to take the responsibility for the design of a building? It is very often an extremely important economic problem, because if you work for six months on a design and take the view that you ought to go




'. . . six months on a design . . .'

on for another two months before reaching a solution, which view is shared, say, by two other partners, but other partners say: 'We have been working long enough on that and we do not think it should be done', there is a dangerous potential point of stress.

**Mr. Raglan Squire:** We have come across that point. There are certain jobs which come into the office and go out again without a great deal of trouble, but there are others with which one has to grapple for a considerable period. We have taken the view that with certain jobs it is worth making a loss in order to achieve the sort of architecture we require. I think that the real answer is that we do not make a general rule on such considerations. Each job that comes in is assessed and we either say: 'This is the sort of job that we want to push through pretty quickly' or 'This is the sort of job we can get some of the more enthusiastic designers to work on. They will take longer but will really make a good contribution, and it does not matter if we make a loss'. I think the policy of assessing individual jobs and saying how much time will be spent on them is preferable to laying down a general rule.

**Mr. Grenfell Baines:** I think I did mention the question of design. I said it was our policy to give as much freedom as possible to a member of the group so that he can design in accordance with his own ideas, although there is a general feeling in the Group that our aim ought to be to develop and produce contemporary architecture.

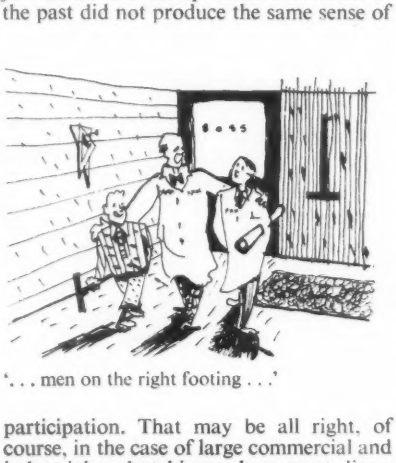
It is quite a natural thing for members in our firm to ask certain other members for their opinions on design. Some are outstanding when it comes to designing and they are often approached. We have had very little clashing up to now. It is noticeable that a member will take the opinion and advice of another member whom he respects, although we have at times looked at some person's design and shaken our heads! In any case we do not tell that person to alter his work.

**A Speaker:** I cannot help thinking, having listened to the speakers, that after all work is more important than the people who do it. I have not yet been able to visualize architecture at 24*s.* 6*d.* as against architecture, say, at 59*s.* 9*d.*

**Mr. Grenfell Baines:** I take it you mean that the job is the thing that really matters, and with that I am in full agreement. It is what we, as architects, can give society that really matters, and the aim should be to give the very best architecture. We believe that the best way to achieve that end is to have the finest working relationships that can be found in the profession. When men are on the right footing with each other they will produce the best work.

**A Speaker:** I believe in the past that a method of developing partnerships in the architectural profession was for one well-known architect to bring in an assistant, or perhaps more than one, to form a partnership, and it was often the case that one of the partners would be mainly a designer, the other an administrative and business man, and the third a constructor. What is the fundamental difference between, shall we say, the old-fashioned method of developing a partnership and what is suggested here tonight?

**Mr. Grenfell Baines:** The fundamental difference is that the old set-up did not produce the same sense of participation, just as the old set-up in all businesses in the past did not produce the same sense of



'. . . men on the right footing . . .'

participation. That may be all right, of course, in the case of large commercial and industrial undertakings where great divergences exist between the highest and the lowest, but we, as members of a profession, start off by sharing an equal academic status. We may not be exactly equal, but we do come within much narrower limits than people in large concerns. Therefore we are entitled to participate to a greater degree.

**A Speaker:** As a member of Mr. Grenfell Baines' Group I should like to make two small points. First of all, at the beginning of his address Mr. Baines said that the ideas put forward were his own and not necessarily those of the Group, and then he added the word 'yet'. I should not like you to think that that was something in the nature of a threat! I should like it to be realized that any ideas he likes to put forward will be carefully considered!

My second point concerns the question of the Group name. This question of the personal name as compared with the compound name was considered very carefully, and Mr. Baines, I may say, very modestly kept out of this. However, his name was rather an obvious choice, and I, being an individualist, was the main supporter of that proposal for one reason that the compound names we thought of all seemed unfortunate, and for another reason that we felt architecture was a personal matter.

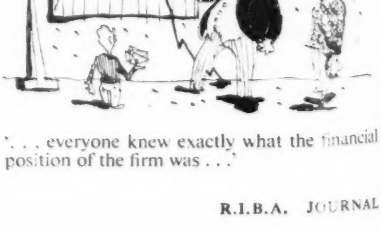
**Mr. Raglan Squire:** We practise under the Group name and it has a lot of advantages. In many practices where individual names are still used they do not mean very much, and we came to the conclusion that we would rather take a name like Arcon which was actually derived from the words architectural consultants.

**A Speaker:** Mr. Grenfell Baines possibly had rather limited time in which to describe all the details of his organization but he did make it clear what the general aims were and how the Group was trying to achieve those aims. He told us, for example, that everyone knew exactly what the financial position of the firm was, what share of the profits he was receiving and what share the others were getting. What I did not understand was how far he was referring to members of the Group or how far he was referring to all the staff in the office.

**Mr. Grenfell Baines:** I was simply speaking about members of the Group, and up to the present time it is only those members who have the knowledge I have mentioned. As far as giving them opportunities of stating what they ought to receive is concerned, most of the people who come as assistants these days do not seem to be very reticent about that! They do not know how the firm is doing, and we feel that in the case of young men particularly who perhaps will not stay with us for long it would be very difficult and probably inadvisable to take them too fully into our confidence.

**A Speaker:** Might I ask if the Group have ever considered extending the scheme to members who are structural engineers and quantity surveyors with a view to closer integration?

**Mr. Grenfell Baines:** One of the members of our Group is a quantity surveyor and we have just started a civil engineer with two graduate assistants with the idea of establishing a civil engineering division. He is on 12 months' trial as a civil engineering assistant on a salary basis, but if we




'. . . everyone knew exactly what the financial position of the firm was . . .'

feel he should be invited to become a group member, we shall make him a member. We do see in this the prospect of close integration between the technical professions connected with the industry which I am sure will be good for us all.

**A Speaker:** We have heard tonight from Mr. Grenfell Baines a lot about partnership in which all the partners are what might be described as complete architects; they all deal with their jobs individually. That seems to me to be the fundamental difference between the partnership which has rather grown up in the architectural world in which the partners tend to become designers on the one hand, and constructors and business men on the other. That is a particularly interesting type of partnership because it divides architects' functions which are becoming more and more specialized into four main divisions—the pure design, what I call statutory planning, construction, and, finally, contract execution. Perhaps Mr. Baines would like to add a fifth division, the philosophy of profit-sharing.

**Mr. Grenfell Baines:** I think I speak for all of us when I say that we do endeavour in our ways of working to develop the architect as an individual rather than as a specialist. I have worked in large offices where I have seen people developed as specialists until they resembled a battery of hens! They could produce magnificent drawings but could not go out to a job and decide whether clay was fit to receive the foundations.

**Mr. Raglan Squire:** On that point I would say this. The business-man-partner and the designer-partner combination is not as easy to work as it sounds. As everybody knows, design is so tied up with negotiations with clients that it would not do to lock the designer up to proceed with his work without consultation with the client. Designing is not merely a question of drawing-board work. It is a question of going to a meeting and carrying that meeting with you by putting across the conceptions of building which are in your mind. Unless the business man and the designer are absolutely agreed on the question of architecture, it is very difficult to work successfully. As a rule they are not agreed.

'As a rule they are not agreed'

*The drawings illustrating this report and previous reports in the series are by Mr. John D. Cordwell [S] and Mr. W. F. Mullins [S] of the Architectural Association School of Architecture.*

# Deferment of National Service

## An Official R.I.B.A. Announcement

THE FOLLOWING arrangements have now been agreed between the Council of the R.I.B.A. and the Ministry of Labour and National Service for the deferment of students of architecture born on or after 1 January 1929.

**1. Students pursuing full-time courses at Universities, Technical Colleges and certain other Further Educational establishments.** Students who are already undergoing full-time training in architecture or who have been accepted for admission to a full-time course may be granted deferment for the period necessary for them to complete the full normal course up to the Final Examination, or to prepare for the Intermediate Examination by full-time study and afterwards to proceed to employment in an architect's office and prepare for the Final Examination by part-time or spare-time study.

In order to qualify for such deferment the student must commence his full-time study before his 18th birthday. If, however, he has been granted deferment to remain at school until the end of the summer term to sit for the Higher School Certificate Examination, or a comparable examination, he must commence the full-time study of architecture within three months of the expiry of that deferment.

Application for deferment in respect of a full-time course in architecture must be made in duplicate on form Misc.20 to the appropriate University Joint Recruiting Board. Full details of these arrangements are being notified to the Headmasters and Principals of the Technical Colleges and similar institutions, from whom copies of the form and the address of the Joint Recruiting Board will be obtainable.

Students who successfully complete a course of full-time study to the Intermediate stage and who then wish to complete their training as architects by employment in an architect's office combined with part-time study for the Final Examination, will be eligible to apply for further deferment to enable them to complete two years' practical training and to sit for the Final Examination not later than the first opportunity after the expiry of the two years. Shortly before they are due to complete the Intermediate course of full-time study such students should submit a fresh application, on Form N.S.294, for the further deferment necessary to enable them to pursue their period of practical training in an office. This application should be submitted in accordance with the directions printed on the form (which can be obtained from any Local Office of the Ministry of Labour and National Service), and should be accompanied by a letter drawing attention to the fact that the student has hitherto been deferred as a student of architecture for a full-time course up to the Intermediate standard.

**2. Students securing their training by service as a pupil or assistant with an architect.** Deferment will also be granted, subject to certain conditions, to young men employed as pupils or assistants (whether articled or not) in architects' offices who are bona fide candidates for admission to the Register of Architects. In such cases deferment may be allowed to give the pupil or assistant an opportunity of taking the Intermediate professional examination before performing his military service. The period of deferment may not extend beyond the 21st birthday or where necessary the date of the Intermediate Examination held next after that date. The student must satisfy the following conditions:—

(i) That his training in the office, or under the supervision of a practising architect began before his 17th birthday or within three months of the completion of his full-time general education.

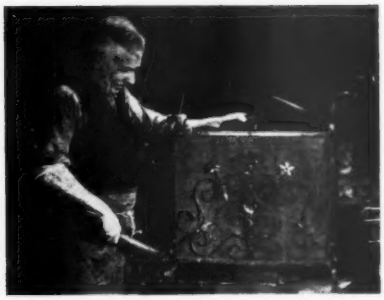
(ii) That he continues to be employed in the office, or under the supervision, of a practising architect.

(iii) That he is pursuing a suitable course of part-time or spare-time study in preparation for the Intermediate professional examination, and is allowed by his employer time off in working hours to the extent of not less than eight hours a week, on average, during the course of his training, for the purpose of attending classes of instruction and/or for private study in preparation for his examination. Where it is not possible for a pupil or assistant to attend part-time day classes at a Technical College or Art School private study should be undertaken in the office under the direction of the employer or a qualified member of his staff. In those cases where the pupil or assistant is able to attend evening classes in architectural subjects it should be possible for him to work in the office on design problems and exercises which form part of the evening course. The distribution of this time off from office duties will be a matter for arrangement between the employer and the student, to suit their mutual convenience.

Architects' pupils and assistants desirous of deferment of call-up under this arrangement should make application on form N.S. 294 obtainable from any local office of the Ministry of Labour and National Service.

**3. Periodical review of Deferment.** Where deferment is granted it will in all cases be subject to satisfactory progress in training and studies, and will be reviewed periodically by the University Joint Recruiting Board or District Manpower Board, as the case may be.

**4. Application for Deferment.** Application for deferment should be made on the appropriate form immediately after a student, pupil or assistant registers for National Service.



*From the Rural Industries Exhibition.*
Rural Blacksmith's Work.

Rural Thatching.

# Review of Construction and Materials

*THIS SECTION of the JOURNAL had perforce to lapse during the war years, but it is now revived. As before, it will be compiled from all sources contributing technical information of use to architects, principally from official and industrial research bodies, and from individual experts; thus every effort is made to ensure that the information given shall be as accurate as possible. The number of bodies dealing with specialized branches of research is large, but the following exist for the service of architects and the Building Industry, and will willingly answer inquiries.*

*The Director, The Building Research Station, Garston, Nr. Watford, Herts. Telephone : Garston* 2246.

*The Director, The Forest Products Research Laboratory, Princes Risborough, Bucks. Telephone: Princes Risborough* 101.

*The Director, The British Standards Institution,* 28 *Victoria Street, Westminster, S.W.*1. *Telephone: Abbey* 3333.

*The Technical Manager, The Building Centre,* 9 *Conduit Street, W.*1. *Telephone: Mayfair* 2128.

**The Rural Industries Bureau:** The term 'Prefabrication' suggests the hum of machinery and human bees busying themselves with jigs and moulds in many hives of industry; the word itself falls from the lips in quick staccato sounds, suggestive of urgency. On the other hand, 'Rural' cannot be pronounced quickly; there is a quiet slowness about it indicative of peaceful plying of an ancient trade. As Mr. Aneurin Bevan is so connected in the public mind with prefabricated houses, it was pleasant to hear him say that he had a warm regard for rural industries carrying on the old methods, even though he was forced to adopt new methods in the housing drive. This confession Mr. Bevan made at the opening last month of an exhibition arranged at the Building Centre by the Rural Industries Bureau, which was established in 1921 by the Minister of Agriculture to encourage and develop rural industries in accordance with a scheme framed by the Development Commissioners.

The exhibition contained examples of various kinds of stone walling in limestone and sandstone; slates, tiles, reed and straw thatching, quarry tiles, chimney pots, gates and hurdles, and examples of sand-faced facing bricks from Suffolk, Hampshire, Surrey, Berkshire, Sussex and several other counties. The blacksmith's trade was also represented.

The Bureau is neither a trading concern nor an association of either manufacturers or craftsmen; it is a State service financed by the Treasury, and no payment is asked for the advice or technical instruction it is prepared to give through its staff of instructors. The Bureau is in touch with the Ministries of Agriculture, Labour, Works, Education, Town and Country Planning, and the Board of Trade. In the transition period between war-time and peace-time, rural industries striving to keep their heads above water may obtain advice and encouragement from the Rural Industries Bureau, 35, Camp Road, London, S.W.19: Telephone WIMbledon 5101.

**Foamed Slag:** The days of empiric methods are certainly ending, so far as composite structural materials are concerned, though observation and experiment are still most necessary attendants on theory. One of the latest bodies to enter the field of specialised research is the Foamed Slag Producers' Federation, recently formed in collaboration with the producers of the material. The Federation will act as the technical consultants on behalf of the constituent members and will be available to give to users of foamed slag advice on various methods of application. At the same time, the Federation will conduct research into all branches of construction in which the material can be used to advantage.

Although five producing companies have collaborated to form this Federation they will retain their identity as producers and will sell through their own organizations. Mr. M. Gallai-Hatchard has been appointed General Manager of the Federation, with offices at 85-88 Grosvenor Gardens House, Grosvenor Gardens, London, S.W.1 (Tel. Victoria 1485), whence further information may be obtained.

It will be recalled that the material forms the subject of a British Standard Specification, No. 877 of 1939. Incidentally the title of the Federation settles the vexed question as to whether the material is to be known as 'foam slag' or 'foamed slag'.

**British Standard Specifications:** B.S. 644, *Part* 2. 1946. Wood windows; double-hung sashes, with cased and solid frames. This British Standard has recently been published and gives three heights, 3 ft. 9⅛ in., 4 ft. 9⅛ in., and 5 ft. 9⅛ in. Seven widths are tabulated: 1 ft. 6 in., 2 ft. 3 in., 3 ft., 3 ft. 9 in., 5 ft. 3 in., 5 ft. 7½ in., and 6 ft. The requisite masonry openings are also given, showing a total clearance of ¼ in. for width and height. These are for the weight-balanced types, the dimensions for the spring-balanced sashes being slightly less. The schedule of sizes, etc., includes the number of panes and the respective daylight areas.

**Building Research Station:** Notes on repair of damaged buildings. With the issue of Note No. 24 the Building Research Station have completed their series on the repair of damaged buildings. The series brings up to date the information given in the B.R.S. bulletin on the repair of bomb-damaged houses and bears in mind the large programme of repair and restoration of war-damaged or neglected buildings that will need to be carried out as circumstances permit.

The series includes notes on the repair of structural steelwork damaged by fire; restoration of paintwork on wood and steel; repairs to stucco, rendering, asphalt and felt roofs; repairs to timber roofs and floors; eradication and prevention of dry rot; repair of internal plasterwork; repairs to brickwork; reinforced concrete columns and the restoration of masonry. Although the Notes are mainly intended to deal with damage caused by enemy action, there is much information of interest when dealing with general dilapidation.

Any, or all, of the Notes may be had free from the Director, Building Research Station, Garston, Herts. Envelopes should be marked R.D.B.

**Mechanical Car Parking:** There is no need to stress the importance of improving the existing methods of car parking; the least observant person must be conscious of it as he walks through any city or town; to town planners and architects and engineers of local authorities it is a matter of moment and perturbation, and to them the recently perfected Baldwin-Auger system will be of interest, as it overcomes some of the difficulties of car parking.

Omitting for the moment all consideration of the thought, mechanical and electrical inventiveness, and ingenuity that have been put into the elaboration of the original concept, the basic principle is briefly this: a series of movable platforms are ranged in two parallel lines, and run on supports so arranged that the platforms are level with the general floor. Each platform is of a length and breadth sufficient to accommodate a car, and consists of two metal grids each approximately 1 ft. 10 in. wide, spaced about 2 ft. 4 in. apart. In the

demonstration model the length of each platform was 16 ft. The overall width of the two lines of platforms is about 16 ft. A convenient length of parking space has been found to be ten platforms long, that is 160 ft. but only 19 platforms are used, as one blank space must be left, for a reason which will appear later.

The platforms can move forward or backward longitudinally, and at the two ends of the assembly the last platform can be moved sideways across to the other line, transversely. It will thus be seen that the system comprises a rectangle, in which the platforms can move up or down the long sides and across the short ends. The accompanying diagram shows only five platforms, but illustrates the principle. The platforms are numbered from 1 to 19. Let it be assumed that platform 1 is at the end of the left-hand line (Fig. A), ready to receive a car to be driven on from the approaching space. At the other end of the left-hand line there is a blank space. When the car has been driven on to platform No. 1, and has been braked (and locked) the machinery of the car park is set in motion and the whole of the left-hand line of platforms moves up one; the previous blank space is thereby occupied by platform No. 2 on that line, and a blank space is now left at the approach end (Fig. B). The last platform, No. 5, at the approach end of the *right-hand* line is now traversed so as to occupy the blank space left there by the movement of the left-hand line, leaving in its turn a blank space at the approach end of the right-hand line (Fig. C). The whole of the right-hand line is now moved so that the blank space at the approach end is filled by platform No. 4, thus leaving a new blank space at the other end of the line (Fig. D). Into this blank space platform No. 2 of the left-hand line is traversed thus leaving another blank space for subsequent movements (Fig. E). It will be seen that the car is moved along the line in a series of 16 ft. progressions, is eventually traversed across to the other line, and then moved along that line. As empty platforms arrive at the approach end cars are driven on until all 19 platforms are occupied. To call any desired car, wherever it may happen to be, it is only necessary to let the platforms shunt up one line, across, and down the other until the car arrives at the approach space, and this shunting can be clockwise or counter-clockwise. Throughout the whole process the car need not be touched by hand, so there is no fear of wings being dented by careless driving or man-handling, neither will there be any strain on the car springs, as each 16 ft. move is so governed that, although it takes only 10 seconds, it begins and ends slowly, acceleration and deceleration taking place while the car is moving through the first and last 2 ft. of movement.

The system is operated by one man with a small switchboard, containing 19 numbered little levers and a starter switch. When a car is wanted the operator depresses the correspondingly-numbered lever, moves the starter switch, and the platforms shunt themselves until the car arrives at the approach space, ready to be driven away. A 12 h.p. electric motor is used to move the platforms up and down the line, while smaller motors effect the cross-over at the ends. The automatic control, selection, and 'storage of calls' is done by an ingenious electrical 'brain'. If, say, the owners of cars on platforms Nos. 3, 9 and 16 call to collect their cars at the same time, the operator depresses the corresponding keys and the 'brain' works out which of the three cars it can deliver in the least number of moves, clockwise or counter-clockwise, and remembers the other two until it has disposed of them also. The longest time taken to deliver a car is six minutes, the average time being three minutes, and during that interval the car owner would no doubt be paying the garage fee and walking to the approach space, in readiness to drive away.

The running track and operating mechanism have been contrived to occupy not more than 20 in. deep, which is not unreasonable in the case of a suspended floor. It is claimed that the Baldwin-Auger system will accommodate almost double the number of cars that could be got into an ordinary car park, of the same superficial area, owing to the saving in space effected by the compactness of the arrangement.

The idea was conceived by Mr. W. W. Baldwin and the technical details were worked out by Mr. Harold Auger, in conjunction with Messrs. Building, Engineering and Mechanics, Ltd., Messrs. Braithwaite and Co., Ltd., and the Fraser and Chalmers Engineering Works of the General Electrical Company, Ltd.

Mechanical Car Parking. The Baldwin-Auger System.
*Photograph G.E.C.*

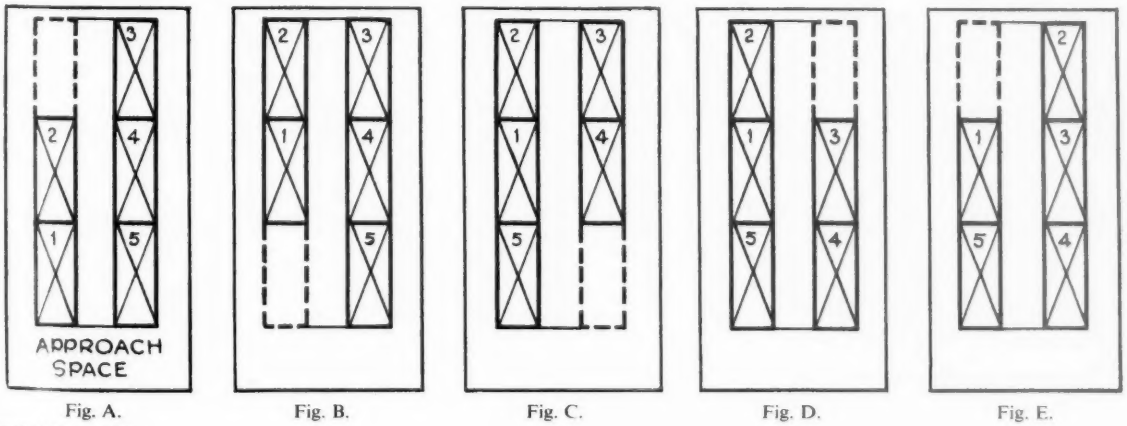



Fig. A. Fig. B. Fig. C. Fig. D. Fig. E.

Mechanical Car Parking

# Schools and Students

### Arch.S.A. Council Meeting

*Examination of R.I.B.A. Education Report—Arch.S.A. Forum Scheme.* Bristol, Leeds, Plymouth and Newcastle have completed their reports. Discussion is still in progress at Manchester University and Portsmouth.
*National Secretary's Report.* The National Secretary warned delegates not to imagine because of the present wave of activity that no further effort was required. He indicated two possible causes of failure in Centres: incomplete handing over to succeeding generations, and the isolationist or '——you, Jack, I'm all right' attitude of individuals.
*Finance Committee.* The Treasurer reported that the financial position was improving, but said that some Centres were late in forwarding subscriptions. Council agreed that the Association should expel Centres which failed to make their due contributions.
*Journal.* The Editor referred to a considerable debt outstanding on the issues of PLAN produced before his taking over, and to a rise in printing costs of 12½ per cent. He was recommended to increase the price of PLAN to cover this, provided that the present quality is maintained.
*International Committee.* The Secretary gave a report of the Prague Student Congress, which was attended by two Arch.S.A. representatives. He asked Council for direction in the matter of association with the newly formed International Union of Students. A majority of Council voted against co-operation with this organization, which was stated to have passed a resolution condemning all forms of imperialism. It was also suggested that Arch.S.A. should support the formation of an International Architectural Students' Association within the framework of the recently formed International Professional Union.

Mr. Kahn resigned the secretaryship of I.C., and Mr. J. Paul, former Travel Secretary, was elected as his successor.

Mr. Paul reported that a prodigious number of exchange schemes were being arranged for next summer. He was recommended to explore the possibilities of termtime exchanges, which had been suggested by Canada and other countries.
*Publicity Centre.* On the resignation of Mr. Davis, National Secretary, Mr. Kahn was nominated as his successor, and the Regent Street Polytechnic was elected Publicity Centre with effect from April 1947.
*Education Committee and Professional Relations Committee.* In view of the work to be undertaken in conjunction with the Mars Group it was agreed to amalgamate these two committees, *pro tem.* On Miss Ruth Pocock's resignation Mr. Anselevicius was elected Secretary. Miss Pocock and Mr. Bruce Martin (AA) were elected as members of the Committee, which was empowered to co-opt further members for the purpose of co-operation with the Mars Group.

It was reported that the R.I.B.A's. reply to Arch.S.A's. proposals for a closer relationship was still awaited.
*President Arch.S.A.* On Mr. Anselevicius' resignation Mr. M. J. Hislop (Bristol) was elected President of Arch.S.A. It was agreed that relations with N.U.S. should be the province of the President.
*Congress.* A vote of thanks to Mr. Brian Kenchington (Poly.) for his efforts to organize a Congress in London this year, was passed unanimously.

It was agreed that all delegates should investigate the possibility of holding a Congress in their Centres in April, Brighton being especially recommended, and to report back to the National Secretary.
*Region Organizing Centres.* The following were elected: Northern Region, Newcastle; Central Region, Nottingham (elected July 1946); Southern Region, Bristol.
*Competitions.* It was agreed that the Liverpool Centre should be asked to undertake the organization of Arch.S.A. Competitions for 1947.
*Advisory Committee.* Miss Pocock (Bartlett) was empowered to contact postgraduate members with a view to forming an Advisory Committee to form a means of liaison with junior qualified members of the profession.

### University College, London

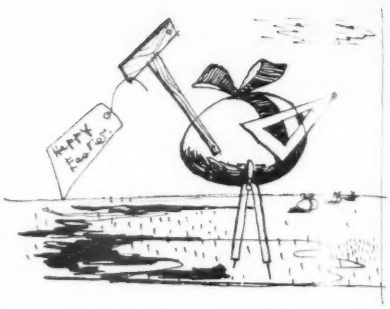
Former students and present students of the School of Architecture gave a dinner on 10 January in honour of Professor A. E. Richardson on his retirement from the Headship of the School. A portrait by Professor Schwabe and a set of Pine's books were presented to Professor Richardson.

Matthews and Adams, two fifth year students, were awarded the British Institution Scholarship worth £75 each. Other matters of interest this term are the institution of a course of lectures in Quantities and a course of lectures on Empire and Colonial Architecture.

### Arch. S.A. Congress

9–14 April are the provisional dates of Arch. S.A. Congress this year, to be held in Brighton. The Pavilion will be the venue for meetings. Miss Lilian Durell (Brackendale, Crowborough Road, Saltdean, Sussex) of the Brighton Centre, is Congress Organizer, and Centres are asked to let her know without delay approximate numbers intending to take part. The inclusive cost for the week will be about £4 10*s.* per head.

The subject of the Congress will be 'The Education of the Architectural Student,' and discussions will be based on the results of Arch. S.A. Forum. More time will be reserved for the expression of students' own views than has been customary in the past. As usual there will be visits to places of architectural interest in the locality, and social events which are




being arranged include a Theatre Party and a Ball, which it is hoped will be held in the Royal Pavilion.

It is possible that accommodation may be limited, so book your places immediately; further information will be sent out soon. Meanwhile we are reminded that Brighton can offer swimming, ice skating, dancing, concerts, racing, two piers, a fabulous length of waterfront, all the fun of the fair, and doubtless a certain amount of beer on sale in Gin-Palace or Victorian Baroque surroundings.

### University of Manchester School of Architecture Notes.

In January two honours were awarded to members of the School. Major A. A. E. Trofimov (3rd Year) received the Croix de Guerre for work with the French Resistance Movement. He was mentioned in despatches for liaison work in France, and also holds the M.C. for exploits in Burma.

Mr. W. P. Hunt—who has been a student of the School, and who is now a member of the Staff—was awarded the Athens Bursary.

The Manchester School had a special interest in the departure of the King and Queen for South Africa in H.M.S. *Vanguard.* The decoration of the Royal suite on board ship by Margot Brigden Ltd., of London, was carried out to designs interpreted by Mr. D. W. Chalk, who qualified two years ago and has since been a member of the School Staff. H.M. The Queen took a personal interest in the conversion of strictly naval accommodation into somewhat more domestic quarters.

In order to foster a more widespread interest in the photography of architectural subjects a small exhibition of students' photographs has been on view in the School. As a result, the summer months may, perhaps, be made to yield a series of photographs, the more successful ones of which might be built up year by year into a comprehensive library. What may prove to be a useful source of such photographs is in process of institution by the Manchester Centre of Arch.S.A. Sunday walks are being arranged to places of note in Lancashire, Cheshire and Derbyshire; Chatsworth House and Haddon Hall being two of the better-known venues.

In order to re-establish one of the pleasanter forms of *esprit-de-corps* a dance is to be held in the Engineers' Club on 18 April

1947. It is hoped that as many past students of the School as possible will attend, and though efforts will be made to notify them all, an open invitation is extended to all those who may read this notice.

**Prizes and Studentships**

The R.I.B.A. Prizes and Studentships, restarted last year, attracted entries as numerous as before the war, the quality of designs submitted showed no falling off and, finally, the General Meeting at which the results were announced and Mr. Minoprio gave his criticism (reported in the last JOURNAL) was well attended. Nevertheless there are still some schools where students are not specially interested in competing for these Prizes and Studentships. In his preliminary remarks, Mr. Minoprio did much to clear up misconceptions on this point. Although many of the competitions bear names which have a fine Victorian flavour about them, most of them are in fact anything but musty. As he pointed out, even the Tite Prize (which started life as a study of Italian historical architecture) this year had a programme which any architect today might be called on to execute, while the subject of the Victory Scholarship was exactly the kind of thing that is to be built on the South bank of the Thames in a few year's time. Not even the most fervent modernist could honestly say that either the programme or the winning design of the Victory was reactionary. There remains the question whether competing is worth while to the entrant who does not win; it can be said that he gets extremely valuable practice in what may be termed 'competition technique', the careful study of which over many years has helped to create some of the largest private practices of today. If the competitor wins, of course, he gets a valuable period of study as well as what Mr. Minoprio described as 'prestige value'. On this last, it can be said that the man or woman who wishes to go in for a salaried career will start higher up the ladder of promotion if he or she can put the words 'Soane Medallist' after his or her name.

As regards the Prizes and Studentships for 1947, the full list is not yet announced. The Prizes and Studentships Pamphlet will be published towards the end of March. Meanwhile, entry forms can be obtained from the Secretary to the Board of Architectural Education for the Tite Prize and Soane Medallion. The Soane Medallion is roughly parallel with the Victory Scholarship and alternates biannually with it.

*The headpiece drawing is by Mr. John D. Cordwell* [S] *of the A.A.*

# Practice Notes

Edited by Charles Woodward [*A*]

**IN PARLIAMENT.** Asked if he was aware that Hornsey Borough Council was blaming his Department for an expenditure of over £5,000 on architects' fees for a housing scheme subsequently disapproved, and whether he accepts liability in this matter, the Minister of Health replied:—As I have explained to my Hon. Friend by letter, I cannot accept responsibility for this item of cost. (30 January 1947.)

Asked whether he had given his approval to new specifications for Airey houses which would substitute plaster partitions in place of breeze-block walls, the Minister of Health replied:—Yes, Sir. (30 January 1947.)

**Subsidy (Building Trade Workers).** Asked whether he would introduce a scheme whereby financial encouragement could be given to building trade workers to build their own houses, such encouragement to include land at a reasonable price or allocation of land from the local authority, the Minister of Health replied:—Local authorities already have powers to advance money to persons to build their own houses and with my permission to sell or lease land at a reasonable price or rent. (30 January 1947.)

**House Owners (Possession).** Asked whether his attention had been called to the hardship suffered by house-owners who are unable to obtain possession of their own house owing to requisitioning by local authorities; and for how long it is intended to permit local authorities to retain these wartime powers which prevent a householder being able to live in his own home, the Minister of Health replied:—I am aware that in some cases hardship is caused. So far as practicable, however, houses are released to owners who wish to occupy them personally. I am unable at present to set a term to the period during which it will be necessary to operate these powers. (6 February 1947.)

**Inactive Local Authorities.** Asked what action he proposed to take with housing authorities that had not acquired sites or submitted building schemes by the end of December 1946, the Minister of Health replied:—My principal housing officers are taking special action to ensure that the very few local authorities involved make better progress. (6 February 1947.)

**Subsidies.** Asked whether any changes in the subsidies to local authorities for houses built by them are contemplated after 30 June 1947, the Minister of Health replied:—I am not yet in a position to make any statement. Asked further whether he agreed that, with building costs as they are, unless the rents are to be raised, the subsidy will have to be raised, the Minister replied:—I do not agree. (6 February 1947.)

**Sites (Ministerial Co-ordination).** Asked whether he would take action to ensure that a site chosen by a local authority for housing purposes should not be rejected by the Ministry of Town and Country Planning after being approved by the Ministry of Health, the Prime Minister replied:—I understand that the site which the hon. Member has in mind was approved by neither of the two Departments referred to. The circumstances of the case do not therefore indicate any lack of co-ordination between them. Asked further whether he was aware that the Minister of Health was asked to send a representative, which he did, and that this representative said that the site was entirely satisfactory and that he could not see why they should not go ahead with the building, a decision which was put into writing, the Prime Minister replied:—The information I have from the Department does not agree with that of the hon. Member. (6 February 1947.)

**RECONDITIONING IN RURAL AREAS.** The 4th Report of the Rural Housing Sub-Committee of the Central Housing Advisory Committee has now been issued by the Ministry of Health, and is obtainable at H.M. Stationery Office, price 9*d*., by post 11*d*.

**MINISTRY OF LABOUR AND NATIONAL SERVICE.** The Ministry announce that as from 1 April 1947 the Building and Civil Engineering (Restriction on Transfer) Orders, 1941 and 1945, will be revoked. As from that date it will no longer be necessary to obtain permission from the National Service Officer before workers can be transferred from one job to another. The revocation applies to workers employed in building or civil engineering contracting undertakings. The announcement is dated 13 February 1947.

The Ministry has informed organizations representing employers and workers concerned that the following industries will be withdrawn from the scope of the Essential Work Orders on or about 30 April next, namely, Brickmaking (including getting the clay), Cement, Gypsum and Plasterboard, Sanitary Drainpipe Manufacture and Sanitary Fireclay. At least one month's notice of de-scheduling will be given, and Orders will remain in force until the date given in the notice.

**R.I.B.A. FORM OF CONTRACT (REVISED 1945) FOR USE BY LOCAL AUTHORITIES.** The adoption by the House of Commons on 14 October 1946 of a new Fair Wages Resolution has necessitated the amendment of clause 13 of the above Contract. The revised clause, as settled by Counsel and approved by the Joint Contracts Tribunal, is being embodied in reprints of the Form of Contract and is applicable whether quantities do or do not form part of the contract.

**TENDERING WITHOUT QUANTITIES.** As noted in Practice Notes in the issue of the JOURNAL for July 1946, the National Federation of Building Trades Employers have approved a National Rule in the following terms: 'Members shall not tender in competition for contracts exceeding £1,500 in total value without Bills of Quantities being supplied. In the case of contracts for

the repetitive construction of small dwelling-houses the Bills of Quantities shall be prepared in accordance with the principles of the Code for the Measurement of Building Work in Small Dwelling-Houses. This instruction shall not apply to contracts for repairs or contracts for painting or decorating only.'

The London Master Builders' Association has, by resolution, amended the regulation as to the provision of quantities for tendering in similar terms to the above. This was noted in Practice Notes in the issue of the JOURNAL for October 1945.

**ARCHITECTS' FEES PAYABLE BY THE WAR DAMAGE COMMISSION.** The Scale of Fees payable by the Commission was issued in the JOURNAL for February 1946. The Scale was not agreed by the R.I.B.A. for the reasons then stated. The Scale is confined to the services of the professional adviser in connection with a survey of the building where no drawings are available or checking the drawings if available, and either the preparation of working drawings, specifications, obtaining tenders and/or arranging a contract, general supervision and certifying for payments and completion, or the preparation of a specification, obtaining tenders and/or arranging a contract, general supervision and certifying for payments and completion. The Commission pay the fees only on the proper cost of the executed work in reinstating a damaged building to its form immediately before the damage.

Fees for partial service are paid by the Commission in the following circumstances: Where there has been no supervision or certification of accounts by the professional adviser, either because the client did not require him to perform these latter services or because some part (or the whole) of the work for which drawings and/or specification were prepared has had to be abandoned, e.g., owing to further war damage, or requisition or compulsory purchase of the property, the Commission has decided that the fee to be allowed should be calculated as follows:

(*a*) Where no supervision or certification is given. Two-thirds of the fee under scale 2 (*a*) or 2 (*b*) as the case may be.

(*b*) Where all the appropriate services are rendered but part of the work is abandoned. Full scale fees on the work done and two-thirds of the scale fees on the work abandoned.

Where a firm price contract is entered into for the whole work two-thirds of the appropriate scale fee will be paid by the Commission with the first instalment payment on account of executed work. As the Commission do not consider applications for instalment payments until the work of repair amounts to £200 or more, the two-thirds fee is not payable by them on the signing of the contract. The payment of fees, however, is initially a matter for the client, he being repaid by the Commission. The balance of the architect's fees is included in the final payment made by the Commission for the executed work.

Where the work is executed on a prime cost plus profit contract fees will be repaid by the Commission on the cost of the work so far executed. The fees will be in accordance with the appropriate scale percentage and would be claimed when an application for an instalment payment in respect of the executed work is made.

The Commission have no power to repay professional fees for the following services: Making and negotiating a claim, application for a building licence, applications under building Acts, By-laws or Town Planning or fees in connection with party wall awards. Fees for these services must be paid by the client and members should make it clear at the time of their engagement that such fees are not recoverable from the Commission. The Commission can repay fees only for the specific services set out in their scale.

**MINISTRY OF HEALTH CIRCULARS.**

**Circular 17/47,** dated 31 January 1947, addressed to housing authorities in England, states that 'M' form authorizations for steel used in non-traditional houses will in future be issued centrally by the Ministry of Health, and all applications received by local authorities for steel in non-traditional type houses should be forwarded to the Ministry at Division 2 (6), Whitehall, S.W.1. This Direction does not apply to the Airey Rural, British Steel Construction (other than gantries), Easiform (other than shuttering), Red Cedar Wood, Scottwood, Swedish and Wimpey 'No-fines'.

**Circular 19/47,** dated 4 February 1947, addressed to Housing Authorities in England, deals with the maximum use of small builders and specialist contractors on Housing Programmes in order that those small firms who are only engaged on jobbing work are not put out of business owing to licensing restrictions. The present restrictions are intended to divert building labour from repair and maintenance work into the construction of new houses and priority work so that the fullest possible use may be made of local contractors, large and small, in new housing work. Where small firms have never built houses it is suggested that they may be able to do so or could do so in association with one or more similar firms, and local authorities are asked to explore the possibilities. Small firms could also be used as sub-contractors on electrical work, glazing, joinery, bricklaying, plastering, painting or decorating, and efforts should be made to bring such small firms into contact with main contractors.

Where general jobbing builders can neither be employed on building new houses nor as sub-contractors, local authorities are expected, in issuing licences, to have regard to the necessity of avoiding unemployment of contractors or operatives who cannot be absorbed on new housing work.

A supplement to Circular 76/46 states that ¼ in. hardboard is available for cupboards, kitchen fittings and staircase cladding for new houses. This can be used in lieu of plywood, which is in short supply.

½ in. insulation board for ceilings of new houses can be used in lieu of plaster or plasterboard. Where *in situ* concrete floors are provided the insulation board will also serve as permanent shuttering and thus save timber shuttering.

B.M.S.H. Certificates are required for all types and quantities of building boards, whether under or over 500 sq. ft. Where building board is to be used in lieu of some other material, i.e. plasterboard or plywood, the local authority should ensure that outstanding orders for the alternative material have been cancelled before issuing B.M.S.H. certificates.

**Circular 6/47,** dated 10 February 1947, refers to Model By-laws, Series XXI, issued by the Ministry under Section 17 of the Water Act, 1945. The Model By-laws deal with the prevention of waste, undue consumption, misuse or contamination of water. They are obtainable at H.M. Stationery Office, price 3*d*.

**Circular 34/47,** dated 25 February 1947, addressed to housing authorities in England, deals with the issue of licences to private builders for the erection of new houses. The Minister thinks it important that the houses to be built under licence should be of good standard in construction and amenity and that the conditions attached to the licence should be such as to permit this good standard and to ensure that it is attained in the construction and equipment of the house. The maximum selling prices for houses to be built under licence have been reviewed with this consideration in mind. Taking into account increases in the cost of building since the existing maxima were fixed, the Minister has decided that a figure of £1,300 (£1,400 in the London Region) may be substituted for the existing figure of £1,200 (£1,300 in the London Region). In order to ensure a good standard of construction and amenity, an additional condition should be attached to each licence in the following terms: 'This licence is granted on condition that the house will be constructed in a proper and workmanlike manner, of materials of good quality, and in accordance with the specification or other particulars submitted with the application to the reasonable satisfaction of the local authority, and that for this purpose the local authority will be afforded facilities at all reasonable times for inspection of the work during its progress'. The Minister suggests that for this purpose the general specification and the amount of supervision exercised should be equivalent to those laid down in the scheme operated by the National House-Builders' Registration Council. The above conditions as to selling price and standards of building in addition to those announced in previous Circulars will be applicable to licences for the erection of houses issued after the date of receipt of this Circular.

**WAR DAMAGE COMMISSION.** The Chancellor of the Exchequer has announced his intention of releasing value payments in connection with war damage claims. This will affect nearly 210,000 properties. Claimants' co-operation can be invaluable to the Commission.

# Book Reviews

**Modern Public Libraries,** by *E. H. Ashburner* [F.]. 4to. pp. 168. 28 plates, 19 drawings. Grafton & Co. 1946. Price 25*s*.
**British Libraries,** by *Lionel R. McColvin* and *J. Revie*. ('British Life and Thought' series.) 4to. pp. 44. Longman Green & Co., Ltd. 1946. Price 1*s*.
These two books are among the first to arrive since the war to assist librarians and architects in their task of summing-up the present situation and of laying the foundations for the future development of a national library system.

Having sketched the history and growth of the different types of libraries in this country, Mr. McColvin deals suggestively with the steps that will need to be taken at different levels to provide adequate library service on a national scale.

Mr. Ashburner has devoted his work, after an introductory survey of present organization, to an exceptionally well-ordered analysis of the design and equipment of Municipal Libraries, dealing particularly with a group of libraries erected in the Northern Cities in the years immediately before the war.

He analyses the requirements of the different departments, considers special details of their construction and equipment, and finally includes a series of valuable diagrams of service counters, shelving, tables and other accessories, so providing a most competent and lucid exposition of the subject.

From a study of the illustrations, the impression is given that the design of libraries is not regarded as a matter of major importance, comparable with that of town halls for instance, by the responsible local and other authorities. Far too often sites are inadequate for layouts proper to the purposes of libraries. Architects as a consequence need to exercise considerable ingenuity to pack large rooms with particular and exacting special requirements into an exterior envelope which can only just be accommodated on the given site. There is rarely space for surrounding gardens, terraces and margins of grass, as these have not been regarded hitherto as necessary features of this class of building.

It would seem that in general there is rather an over-emphasis placed on the necessity of the maximum degree of control from a central position by librarians, and that they have not been alert to seek ways of mitigating the unpleasantness of the impression received by readers of being too obviously under continued observation. Further, there is insufficient realization of the improved amenities and working conditions, that would be obtained in the interior of the building if more air and sunlight could be admitted by the opening out of part of the plan as wings from a centre core. In other words, a less rigid solution than that which has been customary of the library problem is well worth exploring.

VERNER O. REES [*F*].

**Boston after Bulfinch,** by *Walter H. Kilham*. 4to. pp. 114. Plates xxxii. Cambridge: Harvard University Press. 1946. Price $3.50.
This is a good little work on an odd subject. Charles Bulfinch started practice in Boston in 1787, built the State House and much else and died in 1844. At the other end of the century, Richardson built Trinity Church in 1880 and this was soon followed by McKim, Mead and White's famous Public Library. The intervening period is, as may be imagined, architecturally dim; but Mr. Kilham lights it up for us and shows it to contain much entertainment value and a little beauty. In six decades, as many styles caught the Bostonian taste and most of them are familiar to Englishmen. Mr. Kilham's 'American Gothic' is on a level with the specially ill-informed countrified specimens which crop up in our own Gothic revival of the 1820's. French influence came in, exactly as it did with us, under the ægis of Napoleon III's new Louvre, scattering steep mansards and starved clock-towers over the city sky-line. And the 'Victorian Gothic' of Boston's 'seventies is exactly the Gothic of our Mr. Tarring or of Lockwood and Mawson. But Richardson, with his Romanesque, struck the first distinctly American note and although his Trinity tower is too obviously Salamanca and his west portal as obviously S. Gilles-en-Provence, one recognizes in the composition as a whole something which could not have happened—or, at any rate did not happen—over here. As for the library, now sixty years old, there is not a neo-grec building in England which can touch it for neat larceny and light-fingered brilliance.

Mr. Kilham writes wisely and well—too wisely to attempt to 'make a case' for buildings which plead guilty from the start; and well enough to make the book agreeable reading even for those who do not know their Boston or their Bulfinch. He may set his mind at rest on one point. When Bulfinch visited Bath in 1785, Royal Crescent was complete so there need be no doubt as to the source of his Tontine Buildings.

J. SUMMERSON [*A*].

**On Trust for the Nation,** by *Clough Williams-Ellis*. 4to. pp. 170. Illus. 108. London: Paul Elek, Ltd. Price 25*s*.
This book marks the Jubilee of the National Trust, and none can be more fit to sing the praises of this great adventure than Mr. Clough Williams-Ellis, who has done so much for all those causes which weave into the work of the Trust. In his gay and breezy manner the author wafts us from Lindisfarne to Land's End, zigzagging down the country to show us his favourite spots, and thereby emphasizing the catholic nature of the Trust's responsibilities. Among many another place we visit the summit of Great Gable and the little tower on the town wall of Shrewsbury; Dovedale and the Wool Market at Chipping Campden; the giant stones of Avebury and Nash's hamlet at Blaise Castle. The farflung activities of the Trust are excellently depicted by maps at the end of the book, where the 'amenity hedgehogs', to use the author's gawky but telling phrase, are spotted in black on a green background. That they are but hedgehogs as yet is some measure of the distance we must go before we build Jerusalem. The author makes the excellent suggestion that Trust possessions should be marked on the Ordnance Maps.

With the author's views few will quarrel: 'It is quality, not bulk, that has survival value, as the unintelligent brontosaurus found to its cost': 'shrubbery-pokery'—lexicographers please note—along the roads, in place of honest English trees, is to be deprecated: 'the best way of preserving anything is to find it an appropriate modern use'. In this last connection, what could be more suitable than the Trust's conversion of the Courthouse at Long Crendon, once a wool store, into a home for the District Nurse and an Infant Welfare Centre?

The book is excellently illustrated by photographs, but the drawings which adorn the preface are somewhat out of key. The letterpress needs careful thumbing-over if another edition is contemplated. There are frequent misspellings, both of proper names and common words: commas are omitted or misplaced with a fine abandon: for the sake of posterity the First World War should not be described as 'the last war': and it is a pity that a writer who is a master of English, both of the King's and his own variety, should have recourse to French phrases. But if French must be used, then that gracious language should be correctly spelt and accented.

HUMPHREY PAKINGTON [*F*].

**A Christ Church Miscellany,** *W. G. Hiscock*. pp. 260. Published by the author. 1946.
The theme of this book is not readily accessible, since it seems at a glance to touch every, or almost every, aspect of civilized activity. There is a little of something for every taste, from architecture, through music and campanology, to amateur dramatics. On a closer inspection, however, it yields up its secret, that it is, in effect, a detailed history of Christ Church Library, with occasional notes, they cannot be termed more, upon other aspects of collegiate activity.

For the professional mind the interest of this book will centre upon four chapters: that on Aldrich, that on Townesend, that on the decoration of the Library, and that on the buildings generally. The two first may be considered as constituting real contributions to detailed history, in that one defines the work of Aldrich with precision, a task not hitherto undertaken, and that the other rescues the name of William Townesend from obscurity. Viewed generally, the second achievement seems less convincing and less important than the first, which not only places the disputed authorship of several important buildings upon a firm basis, but, as is much more significant, reveals Aldrich himself as the real precursor of revived Palladianism, and as father accordingly of the great tradition that informed and penetrated the lesser building of the eighteenth century. The gap between earlier and later Palladianism is thereby

further closed, and the link, significant especially if we remember such buildings as Lees Court, Coleshill House, Thorpe Hall, Eltham Lodge, Kingston House, Erdigg Park, Belton House and Ven House is seen to be formed less by the individualist and even eclectic school of Burlington than by the more modest return to fundamentals that characterizes the contribution of Aldrich. And evidence to the effect that Townesend played some part in the design of the buildings that he erected, tends to confirm that now widely-held opinion that the true tradition of English architecture rests less in a series of great names, of picked works sometimes of doubtful merit, than in a sequence of lesser masters, whose work is distinguished by gracious simplicity and whose contribution is in effect the true Palladianism.

But the real appeal of this book is to the mind of more liberal tendency, which cannot, we think, but be charmed by its grace and intrigued by its many-sidedness. For are books, musical scores, engravings, paintings, busts, catalogues, bills, decorative schemes, chairs, bells, thefts and temptations, the burdens of study, or occasional aspects of the drama to be discussed, all are raised with a delightful ease and assurance, and treated, if the author will forgive this apparent patronage, with the most engaging modesty. To the taste of your reviewer, oddly warped no doubt, the chapter upon the lost books has a peculiar appeal, for though the case is unproven—nor does it become men of common mould to cast their suspicions upon a character as noble as that of the beneficiary—there is, it must seem, just such element of doubt as to render anything possible, and as to leave room for the widest conjecture. And for the 'Dark Age' again this taste finds a sympathy, for it is not difficult to understand how 'the difficulties under which' the Dean laboured 'in respect to this class of young men' embarrassed him, since the illustration 'Horses at Canterbury Gate', we see the reason. That, if the attributes of the scholarly mind were no doubt pitifully far to seek in the make-up of these young men, a certain superb elegance, last flowering as it were, of the classic Regency, cannot be denied them. And he is a poor artist, scarcely a man of culture, in whom insistence upon a learned attainment drives out a penchant for such grace and such splendid assurance.

But each to his own. Which means, that if it is impossible to speak of each aspect more fully, there is none, to the best of your reviewer's belief, that is not treated with easy ability and that does not repay perusal. And drawing, as far as the general public are concerned, from almost untapped sources, it is little surprising to find that the author has many contributions to make in spheres other than that of architecture. The book, in conclusion, is excellently illustrated, notably by a fine series of portrait busts, and, as is to be expected from the University Press, is handsomely produced with a distinguished type.

In brief, it is a book that may be recommended with confidence, and to those especially who enjoy exploring the by-ways of detailed history in which it abounds.

M. F. H. ROE [*A*].

**The Book of Road Signs,** by *Dudley Noble.* For the British Road Federation. ob. pp. 48. Price 2*s.* 6*d.*

This book is timely from many points of view. The work of reconstructing our system of roads has yet to be done, and it is as well that the intentions of the Ministry of Transport with regard to the development of Traffic Signs should be made clear to the general public, before the recommendations of the Departmental Committee on Traffic Signs is finally ratified.

The book contains a chapter on historical milestones and ancient fingerposts illustrated with excellent photographs, a review of present-day signs and comments on their siting, and a précis of the Departmental Committee's Recommendations on Traffic Signs (and surely no one can fail to be impressed by how nearly they comply with International Practice!).

We are then transported to the Continent on a brief survey of signs in most European countries, and across the Atlantic to the United States and Canada, all of which makes fascinating reading.

Mr. Noble is an experienced motorist, and his approach to the subject is from the point of view of a Road User rather than of a person interested in the design of the signs themselves. His comments on the Report and on the complicated Ministerial method of Route Numbering are vigorous and to the point, but the shoddy construction and poor design of some of our Traffic Lights and Signs seems to have been outside his terms of reference, and he shows a slight yearning for the Picturesque in Road Signs which one feels ought to be discouraged.

However, this is an extremely readable and well presented booklet, and one can only hope that it succeeds in its object of arousing public interest in a subject which should receive far more concern, interest and intelligent criticism from everybody than it does at present.

MISS P. DOWNIE [*A*].

**This Business of Architecture,** by *Royal Barry Wills.* 4to. pp. 210. New York: Reinhold Publishing Corporation, 1941. Price 18*s.*

Royal Barry Wills, American architect, has written a book which will be found both readable and useful by architects embarking upon private practice. In his advice on setting up an office, on documents and records, keeping down overheads, budgeting and cost accounting, comparison may be made with views expressed at the informal meetings dealing with office organization, recently held at the R.I.B.A.

The chapter on 'stalking and capture of clients' is illuminating as comment on American psychology. In this country it is no less important in these days to sense when a job is likely to prove no more than a costly worry and know how to take evasive action. Mr. Wills has something still to learn about stalking the professional reader: his illustrations, in a style that has come to be associated with daily paper comic strips, give the impression that the reading matter is less serious in content than in fact it is.

**Post-War Building Study No. 24. School Furniture and Equipment.** Ministry of Education and Ministry of Works. 8vo. 27 pp. H.M.S.O. 1946. Price 6*d.*

The terms of reference of the Sub-Committee appointed to prepare this report were: 'To make recommendations for the Standardization of materials, components, furniture and fittings in School Buildings.'

The subject matter of the report has been dealt with broadly under four categories according to the Sub-Committee's view of the degree of standardization possible or desirable. The categories which are further sub-divided into main items such as classroom seating, classroom tables and desks, etc., etc., are:

Category I: 'Articles on which a large measure of agreement exists among users and manufacturers and which may therefore be standardized to obtain the benefit of large scale production.'

Category II: 'Articles, not peculiar to schools, which may be obtained in the open market or ordered on Standard Specifications prepared for other or general purposes.'

Category III: 'Articles for which standard types would not have a wide application or which would be better if specially designed to meet the requirements of individual building schemes.'

Category IV: 'Items which in the opinion of the Sub-Committee, should not at present be standardized for fear of hampering research or experiment or for other reasons.'

The results of the Sub-Committee's investigations can be measured by the fact that out of a total of 41 main items reported upon 22 come within Category I, nine in Category II, five in Category III and five in Category IV.

The type of standardization aimed at is the defining of limiting dimensions allowing the designer a degree of freedom of detail. Unfortunately the proportions of some of the fittings, particularly the classrooms, cupboards and shelving, are such that 'refinements and subtleties' could hardly redeem them.

The nature of the report is a summary of much fuller recommendations made to B.S.I. In many cases we are merely informed that 'recommendations have been made' on such and such a matter but are not told just what has been recommended. This is no doubt inevitable, but anyone seeking guidance from the report on many points is likely to be disappointed.

The appendix to the report is a very interesting account of 'experiments made to determine the best chair shapes for use in schools,' the results of which have formed the basis of the Sub-Committee's recommendations on this subject.

On the whole, Post-War Building Study No. 24 is a worthy successor and supplement to Post-War Building Study No. 2, Standard Construction for Schools, and

Post-War Building Study No. 21, School Buildings for Scotland.

HOWARD V. LOBB [*F*].

**Valletta and the three Cities,** by *Austen St. B. Harrison and R. Pearce S. Hubbard.* 4to. pp. xxvi + 109 pp. + vii pls. Government of Malta, 1945.

The writer of a review of a Scheme for Malta must put a curb on his pen. In the first place the island is perhaps the richest plot of architectural ground in Europe: not richest in variety of style but in concentration of fine examples of a single coherent period. It is true there is no single city as full of famous buildings as Venice or Prague: but in Malta it is the whole region, town and country, which teems with noble architecture. The capital itself consists of five cities: there is the ancient capital a few miles away: there are villages, every few miles, each dominated by a twin towered and domed church, which would be taken for a cathedral elsewhere: architecture, realized in Churches, Auberges (as we would, say, Inns of our Temple), Hospitals, Palaces, and above all Fortifications, was a ruling passion of the Grand Masters; and they possessed the three means of realizing it: labour, money and building material: they were also able to command the services of architects who, like the designers of the mediæval cathedrals, submerged themselves in an ecstacy of vernacular design.

The second temptation to the writer is to enlarge upon the glorious defence of the island, when it was our bastion of the Central Mediterranean (leaving to posterity to assess what to us was the immeasurable service in the conquest of North Africa): and then to mourn and describe the losses which Malta has sustained.

Resisting these two temptations to expatiate, there is the equally insistent task of describing the proposals for reconstruction of Valletta, Floriana and the three cities across the Grand Harbour, Vittoriosa, Senglea and Cospicua. These proposals have been prepared and issued in a Report for the Government of Malta, by Austen St. B. Harrison and R. Pearce S. Hubbard: the volume had a very limited edition, and it is good news to hear that a second and, it is to be hoped, much more numerous edition will shortly appear. For in describing this Report as an example of post-war damage reconstruction and as a piece of representation, it must be stated at once and definitely, that it is among the two or three outstanding examples of the modern science and art of Town Planning.

The Report is on a comparatively modest scale, running to about 130 pages and illustrated with line blocks, the only coloured plan being a section of the Ordnance Map at the end. But within this small compass the whole subject is compressed, but adequately shown. There is sufficient evidence of preliminary survey work to be convincing: contours, topography, geology, history, social conditions (especially as to overcrowding), traffic (especially as to diurnal journeyings), climatic conditions, war damage and obsolescence. There is a brief review of Regional requirements: it will be remembered that the close-pent walled cities and their colossal lines of fortifications have already created a natural satellite overspill at Sliema, Misida, Hamrun, Paula and Zabbar: these require tidying up, linking together with a girdle road and a clearer definition given to the radial roads.

But it is in the detailed proposals for the rebuilding of the destroyed and decayed parts of the Five Cities that this work excells. Here is a rare example of town and site planning carried to its logical conclusion in detailed building proposals. To one who can claim to know these fascinating towns, their varied topography and their vigorous architecture, these designs are entirely satisfying. The new features fit neatly into their surroundings, the massing effective and the detail in keeping with the old work (so much of it extremely simple) and yet clearly declaring itself to be new work. Of course much of this mediterranean architecture is both ageless and modern in character. In Valetta the damage, though very extensive, is not so continuous as to warrant a scheme of radical replanning; so that remarkable old 'grid', applied hastily by the Grand Master La Valletta to the uneven site, still remains, with its two glories, St. John's (which I have always regarded as the most satisfying renaissance church interior in the world) miraculously intact and its Palace (slightly damaged but reparable) as its dominant points. The proposals made within this framework are effective: the forecourt to St. John's, George Square at the entrance and a series of small car parks. The most extensive is the creation of an inner traffic square (it is not geometrically a 'ring') by using existing streets, limited to one directional traffic: Bishop Street, which must be widened for this purpose, contains one of the richest fronts in the city: this it is proposed should be set back and rebuilt. Within this ring is the central Precinct of Valletta from which all wheeled traffic is to be excluded: surely a wise and realizable suggestion!

Lastly, a word on this Report, as a report. Its modest size has been mentioned: but this, in an era of difficulty in obtaining paper, getting printing done and blocks made, is a virtue, especially so long as the powers favour spending huge sums upon worthless advertisement of luxuries rather than on worthwhile studies for the improvement of living conditions. But what is so admirable in this case is the completeness and attractiveness of presentation, combined with a consistency of format throughout. One would of course expect perfection of draughtsmanship from Mr. Harrison and Mr. Hubbard: there is something further here: a feeling of continuity between printed page and illustration. It all looks so easy and unemphatic; but the writer of this review knows how difficult it is to avoid a cinema-like scrappiness and quick-change technique.

We shall expect to see these proposals realized under the guidance of these two architects and more rapidly than the similar resurgence here!

PATRICK ABERCROMBIE [*F*].

**City and Regional Planning Papers,** by *Alfred Bettman.* Edited by Arthur C. Comey. Harvard City Planning Studies No. 13. pp. xx + 294. Cambridge: Harvard University Press. 1946. Price $4.50.

Few things in the world are longer than a barrister's brief. Thirty-five pages of this book outline the evidence submitted to the Supreme Court of the United States in favour of permitting an area in the village of Euclid, Ohio, to be zoned for residential purposes, and a further 25 pages similarly outline the arguments for allowing public acquisition of land for housing purposes, as submitted in the Louisville, Kentucky, Housing Case of 1935. Surely such useful but uninspiring matter should be confined to the peaceful pages of the Law Reports and left undisturbed until required by those in search of cases and precedents.

For the rest of the book, without being ungracious to the Harvard University Press, which has so many fine publications to its credit, or unkind to the memory of Alfred Bettman, an energetic crusader in the cause of planning, it must be confessed that this latest Harvard Planning Study tends to be a collection of rather obvious truths expressed in a great number of words.

It would seem that a book on planning should be addressed either to the layman, in which case it should be eminently readable, or to the expert, when it should extend the field of knowledge or clarify what is already known; the present book appears to fill neither of these requirements; but perhaps the trouble lies in the fact that we in England are temporarily out of step with our American friends in the field of planning, and take for granted much that is still debatable with them. Barlow, Scott and Uthwatt have become part of our philosophy and the recent war and the events that followed it separate us for ever from the ways and thoughts of the 1930's. There has been no such revolution in American life and thought.

Lest all this sound too self-satisfied let us remember that while we are congratulating ourselves on building up a fine piece of machinery for real social and physical planning, the Americans, with less assistance from legislation, have created facilities and amenities—buildings, parks, highways, bridges, nature reservations—far finer than of anything we have yet attempted.

A comparison between the proposals in the Ministry of Transport's latest publication 'Design and Lay-out of Roads in Built-up Areas' and the highway system of New York State, as actually developed and built over the last twenty-five years, gives a measure of the difference between English promises and American achievement. This achievement owes much to the untiring labours of men like Alfred Bettman and constitutes a finer monument than the quasi-legal pronouncements collected together to make Harvard City Planning Studies No. 13.

DENIS WINSTON [*A*].

# Correspondence

## PREVENTION OF FROST DAMAGE

Sir,—While recognizing the admirable lines on which the diagrammatic pipe-runs to allow complete emptying have been devised, is it not rather tantalizing at the present time when the bare minimum of tubing is obtainable (or *not*) to put forward a scheme which apparently calls for some 60 ft. extra piping in the extended overflow, emptying-down pipe, and underground extension to supply the outside W.C.? The latter, indeed, seems a needless extravagance, as the same result, with a saving of about 24 ft. of pipe and excavation, might be attained by a high-level branch from the cold supply to the sink, spanning the gap between W.C. and house (cased and wrapped of course) giving actually *less* piping exposed to frost than the vertical riser to the W.C. flush tank as shown. It rather appears as though tantalization were one of the aims of the 29 January JOURNAL with its heavy dose of Scandinavian timber products—from houses to toys—while *we* cannot even afford enough wood to floor our smallest dwellings!

Yours faithfully,
EDWIN GUNN [*A*]

Sir,—While the drawing in the January issue of the JOURNAL has merit the layout of the pipes is open to objections.

1. I can understand the query raised in respect of stopcock 'A'. A stopcock in the position shown entails the use of a key and lifting the cover of the pit, the key can easily be mislaid and the covers frozen in. A householder will not relish going out (say in the night) to turn off the water and find he has to unfreeze the cover before he can turn off the water. Emptying the service in the pit will leave this in a messy condition for a long time unless the surrounding soil is porous.
2. An independent branch service pipe to the outside W.C. is wasteful and if provided in the position shown is liable to freeze under as well as above the ground. The service pipe on the wall of the W.C. is ideally placed for a freeze-up. This service pipe could be taken from the cold service pipe in the bathroom only, the actual connection being in the W.C. For this a low-pressure ball valve could be fitted to the W.C. cistern thus obviating the noise frequently arising where a high-pressure valve has to be fitted.
3. The layout of the H.W. pipes is open to improvement; for instance, the horizontal lengths from the boiler could be avoided, taking these by a shorter route to the cylinder and cistern increasing the efficiency and reducing heat losses from the piping.
4. In a small house the H.W. tap over the sink is the most important; as shown an amount of luke-warm water would have to be wasted before really hot water is obtained; the supply to the sink therefore should be taken before and not after the bath and lavatory supplies. As shown the H. and C. pipe runs to the sink are wasteful.
5. Unless regulations prevent it, the cold water supply to sink should be direct from the service main as this provides a supply of water when the rest of the service pipes are out of action and the possible risk of contamination from the C.W. cistern avoided.
6. The service pipe to W.C. cistern in bathroom is liable to freeze; this would be avoided if the low cabinet type of cistern is used. No towel rail is indicated; if provided this should prevent freezing in the bathroom.
7. The carefully thought out runs for the overflows and the provision of emptying cocks to all fittings except the cold supply to the cistern (where one is most needed) are refinements which, while desirable, are not necessary and in fact a risk if the cocks are fitted with capstan heads which children could interfere with.
8. As the pipes are to be of copper, precautions should be taken where the hot water pipes to the cylinder can be reached by children, bearing in mind a possible temperature in the region of 150 degrees and over.
9. No insulation is indicated; this omission might be set off against the benefits gained by background heating if the pipes are exposed.

One last word: Make the layout as simple as possible and provide in a prominent place near the stopcock or the boiler an imperishable plate; setting out thereon in clear language what the householder should do in an emergency or when the house is shut up during the absence of the tenant.

Yours truly, A. FOSTER [*F*].

*Mr. C. B. Parkes' notes on the above letter.*

1. It is only intended that the whole system should be emptied when the premises are left unoccupied during winter months. The water that would be drained into the pit is that contained in the rising main and the service pipe to W.C.—4 pints only. A small soakaway would dispose of this surplus water.
2. The independent supply to W.C. was provided so that in the case of repairs to internal plumbing a supply to this W.C. could be maintained. It is customary in this area to connect W.C.s to main supply and not to storage tank, but to meet Mr. Foster's objection the supply could be taken through kitchen and in some cases it has already been done.
3. The flow and return pipes follow the shortest route, but the distance is controlled by the position of cylinder and the need for proper access to pipe connections especially at the cylinder.
4. It is usual to connect the hot water to the sink before supplying the bath, but in an endeavour to hide the pipes, they were taken through a kitchen cupboard, the position of which made it more convenient to reverse the order.
5. The drawing shows the cold water service connected direct to sink.
6. Freezing usually takes place at the ball valve; this would not be overcome by the use of a low down W.C. suite. The high cost of such a W.C. suite and of a towel rail is prohibitive for the small house.
7. In unoccupied houses it is desirable to be able to empty down the whole system; an emptying plug on the rising main is being fitted as mentioned in the article.

No hot water pipes or stopcocks are accessible to children; these pipes are either cased with removable covers or are in floors or cupboards.

Lastly, tenants will be supplied with instructions and a diagram explaining the method of emptying down as follows: (*a*) Partially—when the tenant is in occupation; (*b*) Totally—when the dwelling is to be left unoccupied. This last operation will be carried out on most occasions by the Building Maintenance Department.

Sir,—I was astonished to see the article and diagram on pages 180 and 181 of the issue of the 29 January JOURNAL because the system described and illustrated therein would appear to contravene almost every by-law of the Metropolitan Water Board.

Whilst I am aware that the diagram does not refer in particular to work in London, yet I am of the opinion that it will give an entirely erroneous idea to such architectural students as see it.

I am quite prepared to substantiate the contention contained in the first paragraph of my letter, but I really think that the necessary corrections should more properly be made by those responsible for the insertion of the article in the first instance.

In conclusion, may I say that I have taken the trouble to check the system with the Engineers' Department of the Metropolitan Water Board.

Yours faithfully,
H. MINTY [*F*].

*Mr. C. B. Parkes' notes on the above letter.*

Sir,—The scheme described in the article was designed for houses erected at Bournville, which are supplied with water by the Birmingham Corporation. I am aware that it does not conform to some by-laws of the Metropolitan Water Board, but this does not make it less efficient as the present cold spell has proved.

Water regulations in Great Britain set a high standard for the prevention of pollution and avoidance of waste, but they often limit the architect who is trying to design an installation that will give the most convenient and efficient service to the householder. Mr. Minty's letter gives a useful lead to students by calling attention to the lack of uniformity in Water Regulations and to the fact that there is no standard layout for plumbing or hot-water fitting.

## NATURAL LIGHTING OF SCHOOLS

Sir,—I have followed with some interest the recent articles and correspondence on natural lighting of schools.

It would appear from this, that official blessing is being given to the single-storey teaching-room with part top lighting and low corridor access one side, the two- or three-storey block with side corridor being admissible as a second best solution. Meanwhile, the poor bespectacled foreigner (I have in mind particularly Switzerland and Sweden) continues to build multi-storey

central corridor schools, failing to realize that by transferring to the English model, he could throw away his spectacles without troubling about such details as nature and duration of work, size of book type, and out-of-school background. Possibly he considers that the economy of heating, compactness and improved appearance of his type of school offers some small compensation for loss of eyesight—which curiously enough fails to manifest itself to the ordinary observer.

Surely, we above all countries can least afford the excessive site areas and wasteful construction of the single-storey school for general use. Is it not time that we rebelled against the present 'school sprawl', which arises from an excessive pre-occupation with window areas to which other factors of equal importance seem to have been sacrificed?

It would be interesting to see a definite analysis of the advantages and disadvantages of the central corridor Continental and single-storey English school types, as one cannot but be impressed by the modern examples seen on the Continent, which give the impression of being more efficient in general layout than many of our own types.

Yours faithfully, A. H. GARDNER [*F*].

## HEAVENLY MANSIONS

Sir,—I was very interested in Mr. Summerson's treatize on the 'Aedicule Complex'. His isolation of the tabernacle as the typical Christian ikon is very exact. Mr. Freud's young man is not necessarily so imaginative when he crawls under the chair and pretends it is a house—'historical' furniture and ædicules are related. I cite the four-poster bed, the wardrobe, and the sideboard. Apart from door surrounds, there are also mantelpieces, tea cosies, cuckoo clocks, dog kennels, and I say nothing of that Chagall monster, the grandfather clock. Man is at his most ædiculous in cemeteries: more data on the relationship between scale-shrinkage and laughter would be interesting (cf. Bergson). Modern architecture also provides examples of this —are there not skyscrapers which balance shrunken parthena on their heights? There is also the ædicule in Lewis Carroll.

Does it make any difference whether the ædicule is used as metaphor for its own sake or a symbol of authority? They seem to be used in the first sense in the frescoes of some of the Trecento masters, notably Giotto and Cavallini.

Yours faithfully,

NIALL MONTGOMERY [*A*].

Sir,—I am very grateful to Mr. John Summerson for suggesting an alternative to Viollet-le-Duc's materialistic interpretation of Gothic. I find myself much in agreement with his thesis that the Gothic style is built up on the ædicule—the little house, the shrine—and that the love of the ædicule lives deep in the human being. But it will be remembered that Mr. Summerson traced this rich flowering of the ædicular in Gothic not only from this basic need of man, but also, by historic threads, from the Pompeian wall painting. My own feeling is that these threads are indeed very slender and that, if the particular nature of man in mediæval times is understood, his peculiar need of expression through the ædicular will be adequately explained without the necessity of an elaborate historical scaffolding.

I would suggest that the men who conceived the Gothic cathedrals possessed a consciousness that was unique, within the historical periods of architecture, for its depth of awareness of the spiritual world (especially at Chartres, the centre of the esoteric 'school' of those times). They expressed this deep knowledge of the relation of the soul of man to the cosmos in the form of their architecture—in the ædicules, the 'heavenly mansions', that help man both to express and to understand his position as a microcosm within the macrocosm. In a similar way the young child, in building his 'little house', no doubt expresses, and at the same time makes easier, his increasing relationship with the earth existence. But there is a significant difference in direction; the ædicule for the child is a means of adapting himself to the earth, for the adult of preparing himself for the heavens.

I suggest that it is only by an understanding of man's ever-changing consciousness through the ages that architectural style can be truly understood. Further, that such an approach to architecture has contemporary as well as academic significance. For instance, may it be that we should look on the functional modernism of the '20s not as the beginning of a great new style as many of us believed at the time, but as a new expression of the old materialistic rationalism which reached its height during the latter part of the 18th century? I believe that, when the heritage of the earlier age has been sufficiently overcome, a new architectural form will grow from a changed consciousness in man, as right for the 20th century as Chartres was for the 13th.

Yours faithfully,

KENNETH BAYES [*A*].

## HEALTH AND WELFARE IN FACTORIES

Sir,—It is significant that the D.S.I.R. Chairman of the meeting of the A.S.B., reported on p. 194 of the 29 January JOURNAL, should have prefaced his contribution to the discussion of a paper on the above subject read by a former Inspector of Factories, by an enquiry as to adequate natural lighting. Still more significant is it that this pertinent and important enquiry should have remained completely unanswered.

The need for something more reliable and practical than the vague theoretical guesswork which constituted our pre-war technical data on this old question was rendered acute and vital very early in the war by the cost and risk of movable as compared with fixed blackout. The only official advice, however, was a naive suggestion (1) that the long-established official British and Continental minimum for the ample natural lighting of elementary school class-rooms (0.5% daylight factor) should be multiplied by 10 to 5% 'with more for fine work'. This was superseded by the practical suggestion of the Ministry of Home Security (2) that manufacturers should solve their own problems by trial and error. They did.

Having recently had occasion to advise a Dominion Government on the point, may I suggest that authoritative standards for the guidance of architects designing factory fenestration could easily be set up with a minimum of expense by means of a very little practical collaboration between the D.S.I.R., Factory Inspectors, and Works Managers? The detailed classification of differing bench processes, which appear to require the exercise of different degrees of visual acuity, and therefore different minima of natural lighting, should not be difficult. Every side-lit workroom with work places at right angles to the windows should then constitute an ideal theatre for those unconscious tests which are essential to the physical measurement of visual reactions partly psychological. In interiors lit by windows on one side the light falls off by about 90% from the window wall to the back wall. Provided, however, the worst work place is adequately lit for the job in hand, occupants *are absolutely unaware of any material difference*. If, therefore, it is suggested that output could be improved, or errors eliminated, by raising, say, 0.5% daylight factor to 2.0%, all that is necessary is to measure secretly the daylight factor values on rows of side-lit work benches, change the workers round daily, and study the results.

Yours faithfully,

PERCY J. WALDRAM [*L*].

[1] D.S.I.R. Daylight for New War Factories B.R.S. Note No. 811 April 1940. Also D.S.I.R. War Time Bulletin No. 1, 1940

[2] Min. Home Security, Observation, Ventilation and Protection from Glass in Large Buildings. R. and E. Dept. Bulletin No. C13, 1940.

## A CAUTION TO ARCHITECTS

Sir,—If the position of any architect in relation to increase in the cost of building-work which he may be supervising under present regulations is as stated by Mr. Yendall, it is certainly time that it became clearly known, so that efforts can be made for its improvement.

No one will be found to defend the action of a professional man who knowingly *authorizes* work outside or beyond that covered by a Building Licence properly obtained, but what is the position of one who, having procured a licence, finds the cost of the authorized work steadily rising, or who discovers extra work executed on the direct order of his client to builder or workmen without reference to him?

This probably applies to all of us lucky (or unlucky) enough to have work in progress. It would be absurd if the answer should be 'stop the work when the limit is reached'. I find it difficult to believe that even the most obtuse of magistrates would take that view. In the case of new houses or converted dwellings it is only *completed* homes which count, and work which stops short of occupational standards is to that extent wasted, which surely benefits no one. What is the alternative open to the architect? Could the R.I.B.A. obtain a ruling?

Yours faithfully,

EDWIN GUNN [*A*].

# Obituaries

**R. Barry Parker** [*Retd. F*], past-president of the Town Planning Institute, died at his home in Letchworth, Hertfordshire, on 21 February 1947.

Dr. H. V. Lanchester [*F*] has sent the following appreciation:

'The decease of Barry Parker leaves a gap in the ranks of town-planners with outstanding architectural qualifications. In the public eye he first came into prominence in the foundation of Letchworth where, with his partner and brother-in-law, Sir Raymond Unwin, he was responsible for the development and design of this, the pioneer garden city. Of a somewhat retiring disposition, he left the method of propaganda mainly to others, concentrating his energy on the technical aspects of the great task that the programme presented. Bearing in mind the novel features involved, the value of his work here was outstanding and it had a permanent influence on the subsequent course of town planning. In later years Barry Parker prepared a number of important schemes, among the more notable being those for Sao Paulo in Brazil and Wythenshawe at Manchester, besides carrying on an active practice in the design of domestic work, towards which his interest was more specifically directed, as indicated by the book he published on this subject.

Barry Parker's charm of manner was the outcome of a deep sense of communal amity and a spirit of tolerance towards all with whom he came in contact; it can truly be said of him that he "loved his fellow men".'

Barry Parker held the position of consulting architect for Letchworth for 40 years until his retirement three years ago. He was also associated with housing and town planning schemes at Bolton, Swansea, Newark, Wakefield, Bridport, St. Neot's, Loughborough and Hampstead, and during the 1914/18 war, when building was at a standstill in this country, he carried out a re-planning scheme at Oporto, in Portugal. Responsible also for schemes in Canada and Belgium, he had been lecturer on Town Planning to Birmingham University and to the Architectural Association, and had received the Howard Memorial Medal of the Town and Country Planning Association for his services to the garden city movement in 1941.

**MacDonald Gill** [*F*]: Architect and artist, Mr. MacDonald Gill died at the age of 62 at his Chelsea home on 15 January 1947.

Like his elder brother, Mr. Eric Gill, that master of lettering and design, who designed the R.I.B.A. Badge, Mr. MacDonald Gill received part of his early training in an architect's office and he, too, played a prominent part in the revival of lettering based on Roman and medieval standards. He was chiefly known to the public for his intriguing picture maps which appeared as advertisements in books, as posters on hoardings, and as mural decorations in shops, municipal buildings and in private houses, but charming examples of his architectural work may be seen in several Sussex churches, in St. Paul's and Chichester Cathedrals and in some of the colleges at Oxford, to name only a few.

The son of the Rev. A. T. Gill, he was born in 1884 at Brighton and was educated at the Royal Naval Academy, Bognor, and the Central School of Arts and Crafts. In 1901 he was articled to Mr. L. Pilkington, and in 1903 he became assistant to Sir Charles Nicholson and Mr. H. C. Corlette, remaining as assistant in their offices for some years.

A cartographical masterpiece which arrested much attention in 1913, the days of the 'Underground', before the coming of the 'London Passenger Transport Board', was his map of the then Underground system, whose humorous incidents and captions drew laudatory comments, and otherwise, from two different schools of thought. His maps fell mainly into two groups—maps proper, in colour, with added figures, such as that he executed on behalf of the London, Midland and Scottish Railway, and his 'prospects' which depicted the countryside in perspective from a bird's-eye view. Perhaps his most successful of the latter type was the mural on tiles for the Windsor branch of Messrs. Boots, the chemists. The subject of the mural is Windsor Castle, and it is the fruition of all MacDonald Gill's legion skill in design, lettering, cartography and architectural drawing. Lincoln Cathedral, the Guildhall, Cambridge, the Houses of Parliament and the Scott Polar Institute evidence other examples of his mural decorations, while few have not heard of the giant map he executed for the Empire Marketing Board. He was a member of the Art Workers' Guild and the Guild of Memorial Craftsmen, and worked quietly for a number of years as designer to the Imperial War Graves Commission, bringing taste and knowledge to bear on the design of those pathetic memorials of man's folly which litter the face of the Globe.

In 1915 he married the daughter of the Rev. A. B. Bennett, and there were two daughters and a son of the marriage.

**Henry Tanner** [*F*]: The death has been announced of Mr. Henry Tanner at the age of 70. Mr. Tanner was architect for Oceanic House, Pall Mall; The Bank of New Zealand, Moorgate; Waterloo House; and joint architect for the Strand Palace and Regent Palace Hotels, in addition to much of the rebuilding of Regent Street.

**Henry Clifford Hollis** [*F*]: Mr. Henry Clifford Hollis died on 13 November 1946 at the age of 63. He was trained at the Architectural Association School of Architecture and later articled to Mr. C. Granville Baker, and practised in London.

During the late war he worked for the War Damage Commission, but whilst in private practice he was responsible for much domestic work in the Hampstead Garden Suburb and on housing estates in Tooting and South-West London.

**Walter Cook** [*Ret. L*]: Mr. Walter Cook died on 1 February 1947 at Oxford at the age of 87. Before retiring in 1932 he was in personal practice with Mr. Arthur Gore Edwards [*L*] in Bridgend, Glamorganshire, from 1897 to 1932, and there designed many country houses, hotels, cinemas, schools, war memorials, churches and domestic work. In collaboration with the late Mr. S. Trevail of Truro he built the Atlantic and Headland Hotels at Newquay, Cornwall and the King Arthur's Castle Hotel, Tintagel, Cornwall.

**Sir Matthew M. Ochterlony, Bt.** [*F*]: The death of Sir Matthew M. Ochterlony [*F*] occurred on 4 October 1946 at Edinburgh, after a short illness.

Educated at The Institution, Edinburgh, and by private tuition, the commencement of his professional career was delayed for several years by his having, for health reasons, to take up outdoor employment in forestry and market gardening.

In 1905 he entered into apprenticeship with John Kinross, studied at the Edinburgh College of Art from 1905 to 1908 and remained in his office for some time. Thereafter he assisted A. Lorne Campbell [*F*] at his offices in Castle Street, Edinburgh, until January 1916, when he joined the Army as a private in the R.A.S.C. and served during the first Great War until May 1919. On demobilization he became assistant for several years to F. E. B. Blanc [*F*] of Edinburgh, and later with Mr. Richard Reddie.

About 1927 he commenced practice on his own account at 2 Coates Crescent, Edinburgh, and was for several years associated with William Davidson [*F*]. Subsequently, in 1933, he entered into partnership with Mr. H. O. Tarbolton, R.S.A. [*F*] at 4 St. Colme Street, Edinburgh, and was in association with him in work at The Commercial Bank of Scotland Ltd., West End, Edinburgh, St. Ninian's Episcopal Cathedral, Perth, The Old Sailors' Ark, Edinburgh; St. Salvador's Episcopal Church, Stenhouse; St. David's Episcopal Mission Hall, Pilton, and St. Cuthbert's Episcopal Church, Colinton.

Sir Matthew was elected an Associate of the Royal Scottish Academy in March 1939, and was a regular contributor to the Architectural Section of its annual Exhibition.

On the death of his father in 1931 he succeeded as fourth Baronet of Ochterlony and was a member of the Standing Council of the Baronetage.

Sir Matthew was a skilled craftsman in metal, wood and stained-glass. In the last-mentioned craft he worked in collaboration with his artist friend Andrew Watson Turnbull, and examples of his work may be seen at St. Mark's Church, Portobello, St. Martin's Church, Tynecastle, Edinburgh and St. Cuthbert's Church, Colinton. He was elected a member of the Institute of British Engineers in October 1939.

**Henry Edmund Mathews, O.B.E.** [*F*]: The death has occurred at the age of 78 of Mr. Henry Edmund Mathews, O.B.E., T.D. [*F*], architect and surveyor to the London Estate and St. Bartholomew's Hospital from 1913 to 1939. His father was the late Mr. J. Douglass Mathews [*F*].

Born on 22 May 1868, Mr. H. E. Mathews was educated at Merchant Taylor's School, and after technical training at the London City and Guilds College was articled to his father, commencing practice on his own account at East Grinstead in 1890. He later entered into partnership with his father in a London practice.

He designed the hospital at East Grinstead, a convalescent home at Clacton-on-Sea, branches for the old Capital and Counties Bank, domestic work in many parts of Surrey and Sussex, and much work for 'St. Bart's'. His latest work (in conjunction with his son, Mr. E. D. Jefferiss Mathews [*A*]) was the Oxted and Limpsfield Hospital.

Mr. H. E. Mathews at one time held appointments as Surveyor to the Worshipful Company of Tallow Chandlers and the Fishmongers' and Poulterers' Institution. He saw service from 1914 to 1918 in the first Great War with the Royal Sussex Regiment, being awarded the O.B.E. in 1919. He was a member of the Court of Common Council of the City of London from 1922 to 1932.

The following details of his career have been written from information supplied by his son:

'Edmund Mathews was in his 79th year, and during his long and active life, which he was able to pursue until the day before his death, he combined, with great energy and enthusiasm, his profession as an architect and much service and interest in local and public affairs. For over 20 years he was well known in the local affairs of East Grinstead and East Sussex, particularly in matters connected with church affairs, the Conservative Party interest in politics through the then very active Primrose League, and the early days of the Territorial Army. He was also one of the first owners and drivers of a motor car in the days when they were considered somewhat eccentric.

From his student days he had been a keen

"civilian" soldier and had joined the Artists Rifles Volunteers. He was subsequently commissioned to the 4th Bn. The Royal Sussex Regiment of the Territorial Army with whom he served continuously until retiring in 1919. At the outbreak of the 1914/1919 war he was commanding the Worthing Company of his Regiment and was responsible for some of the defence works which were quickly constructed along the south coast. These works caused him to be selected for special duties on the General Staff, and he had the unique experience of preparing the military report on the first German air raid by Zeppelins on this country in 1915. He was subsequently appointed to the staff of London District Headquarters on which he served as a D.A.A.G. until 1919. For his war services he was awarded the O.B.E. and Mentioned in Despatches, and his service in the Territorial Army gained him the Territorial Decoration. It was his great regret that his age and health prevented him taking an active part in the last war and that his offer for service in the Home Guard could not be accepted.

After the death of his father in 1923 he followed him in active participation in the affairs of the City of London. He was a member of the Court of Common Council for the Ward of Dowgate from 1922 to his resignation in 1933, and during this period he was Chairman of the General Purposes Committee, being responsible for the reconstruction of the Mansion House. He was twice Master of the City Livery Guild Company of Innholders, and closely associated with the affairs of some City Churches. In 1922 he was appointed one of His Majesty's Lieutenants for the City of London.

Since 1926 he had lived in Oxted, Surrey, where he had interests in many local affairs continued up to the time of his death. He was Chairman of the East Surrey Boy Scouts Association and of the Oxted Boy Scouts Troop. He was President of the Oxted Sports Association, and took an active part in their affairs, particularly the Annual Athletic Meeting. He was also actively concerned with the Oxted and Limpsfield Society for the Protection of the Amenities.

He had many interests in charitable concerns, to whom he gave active support by personal service. Of these in particular the Widow's Friend Society and the Southwark Diocesan Boys' Shelter Home of Camberwell have received much from his counsel and advice. Throughout his life he was an active Mason, believing in the high ideals of the craft and deprecating any diversion from those ideals. He gained high Masonic rank both in Sussex in his early days and in London, where he was, amongst others, a member of No. 1 Lodge, Past Masters Lodge and a Past Assistant Superintendent of Works of Grand Lodge. He was a founder member and Past Master of Tandridge Hundred Lodge.

With all these many interests his first was always his profession. His ability as a planner and organizer, and his great attention to detail found particular scope in the more technical architecture of hospitals and institutional buildings. On the return of his son in 1945 from service in the Army he retired from the senior partnership of his firm in favour of his son, although retaining his close association and active participation in the firm as consultant until his death. He was elected a Fellow of the R.I.B.A. in 1906, he was a Fellow and member of the Council of the Royal Sanitary Institute, and a member of the Surveyors' Club. He was a member of the Advisory Panel of Architects for the Regional Planning Authority of the Godstone Rural District Council set up under the 1932 Town and Country Planning Act.

His family have long connections with the profession of architecture. In addition to his father, both his maternal and paternal grandfathers were architects, and his firm, of which his son is now senior partner, has been in continuous practice since 1830. He married in 1898 Florence Mabel, youngest daughter of Henry Jefferiss, and has a son and daughter'.

# Notes and Notices

## NOTICES

**The Ninth General Meeting, Tuesday 15 April 1947 at 6 p.m.** The Ninth General Meeting of the Session 1946–47 will be held on Tuesday 15 April 1947 at 6 p.m. for the following purposes:

To read the minutes of the Eighth General Meeting held on 11 March 1947.

To present the Royal Gold Medal 1947 to Professor A. E. Richardson, R.A., M.A., F.S.A. [*F*], and to present the following Royal Gold Medals awarded since the outbreak of the war:

1942, Mr. W. Curtis Green, R.A. [*F*]; 1943, Professor Sir Charles Reilly, O.B.E. [*F*]; 1944, Mr. Edward Maufe, A.R.A. [*F*] and 1946, Professor Sir Patrick Abercrombie, M.A., F.S.A. [*F*].

**Session 1946-47 Minutes VI.** At the Sixth General Meeting of the Session 1946-47, held on Tuesday 11 February 1947, at 6 p.m.; Sir Lancelot Keay, K.B.E., President, in the chair.

The meeting was attended by about 150 members and guests.

The Minutes of the Fifth General Meeting, held on 28 January 1947, were taken as read, confirmed and signed as correct.

The President having delivered his address to Students, a vote of thanks was passed to him by acclamation, on the motion of Sir Graham Savage, C.B., Education Officer, The London County Council, seconded by Dr. G. I. Sinclair, M.Sc., Headmaster, Brockley County School, and was briefly responded to by the President.

The Presentation of Prizes was then made by the President in accordance with the Council's Award.

The proceedings closed at 6.50 p.m.

**Session 1946-47 Minutes VII.** At the Seventh General Meeting of the Session, 1946-47, held on Tuesday 25 February 1947, at 6 p.m.

Mr. C. G. Stillman, Vice-President, in the Chair.

The meeting was attended by about 260 Members and Guests.

The Minutes of the Sixth General Meeting held on Tuesday 11 February 1947, were taken as read, confirmed and signed as correct.

The following honorary member and members attending for the first time since their election were formally admitted by the Chairman:—

AS HONORARY ASSOCIATE

The Rev. C. B. Mortlock, M.A., F.S.A.

AS ASSOCIATE

H. E. D. Adamson.

AS LICENTIATES

Henry Neale; Montague Rowell.

Mr. Edward Armstrong [*F*] having read a paper on 'Urban Housing—Planning for Amenity' a discussion ensued and on the motion of Sir Alexander Campbell seconded by Mr. P. L. Leigh-Breese, Secretary of the Guinness Trust, a vote of thanks was passed to Mr. Armstrong by acclamation and was briefly responded to.

The proceedings closed at 8.10 p.m.

**British Architects' Conference Dublin, 11 to 14 June 1947.** The next Annual Conference of the R.I.B.A. and its Allied and Associated Societies will be held in Dublin from 11 to 14 June 1947, inclusive.

The Royal Institute of the Architects of Ireland have in hand the preparation of a most attractive programme and particulars will be issued in due course.

All members and students of the R.I.B.A. and all members and students of the Architectural Association and the Allied Societies are cordially invited to attend the Conference.

It is expected that there will be a large attendance of members from all parts of the country and they are urgently requested to arrange for their hotel accommodation at the earliest possible date so as to avoid the risk of disappointment.

When writing for accommodation members should mention that they are attending the Architects' Conference and ask to be allotted rooms reserved for this purpose in the name of the Royal Institute of the Architects of Ireland.

The Executive Committee of the Conference have kindly furnished the following list of hotels with charges:

| *Hotel* | *Rooms Dbls.* | *Sgls.* | *Tariff B'room and Breakfast* |
|---|---|---|---|
| Shelbourne .. | 7 | 6 | 15/6 daily. |
| Central .. | 7 | 6 | 10/6 to 12/6 daily. |
| Royal Marine, Dunlaoghaire | 10 | — | 16/6 daily. |
| Gresham .. | 10 | 5 | 15/6 daily. |
| Royal Hibernian | 30 | 10 | 18/6 daily. |
| Four Courts .. | 7 | 2 | 10/6 daily. |
| Clarence .. | 2 | — | 12/6 daily. |
| Standard .. | 5 | — | 11/6 and 13/6 daily. |
| Jurys .. .. | 10 | 5 | 12/6 daily. |
| Buswells .. | 2 | 2 | 11/6 daily. |
| Ivanhoe .. | 4 | 2 | 11/6 daily. |
| Ross's Hotel, Dunlaoghaire | 4 | 6 | 16/6 daily. |
| Earlsfort Hotel | 2 | 1 | 10/6 daily. |

PASSPORTS: Members are reminded that visitors to Eire must possess either a passport or a travel identity card and *will not be allowed to leave the United Kingdom unless they produce one of these documents*. Particulars and the necessary application forms are obtainable from the Passport Office, Dartmouth Street, London, S.W.1 or from the Branch Passport Offices in Liverpool and Glasgow.

**Royal Incorporation of Architects in Scotland** ANNUAL CONVENTION 1947. The Annual Convention of the Royal Incorporation of Architects in Scotland will take place at Stirling on Friday and Saturday 20 and 21 June.

**Office Experience for Students of Architecture.** The Council of the Royal Institute have decided that registers of architects willing to take students into their offices to gain practical experience, shall be kept by the R.I.B.A. in London and by the Allied Societies in their respective areas.

Members of the R.I.B.A. who are prepared to co-operate in the scheme are asked to be good enough to notify the Secretary, R.I.B.A.—if their offices are in London or in an area not covered by an Allied Society; or the Secretary of the Allied Society of their particular area. They should state the number of such students they can accept at any one time; and if they are willing to pay any remuneration.

Students wishing to avail themselves of the scheme should apply to the Secretary, R.I.B.A.,

or the Secretary of the appropriate Allied Society, according to the area in which they wish to work.

NOTE: This scheme is separate from that announced in the R.I.B.A. JOURNAL for October 1946 under the heading 'Facilities for Ex-Service Students' which was to help students to find temporary employment pending their admission to a Recognized School of Architecture.

**Disciplinary Action.** The membership of Mr. Basil Alfred Peter Winton-Lewis [*A*], of 12 City Road, Finsbury Square, London, E.C.1, has, by decree of the Council made pursuant to the By-laws, been suspended for a period of twelve months from 11 February 1947; and accordingly he ceases during that period to be a member of the Royal Institute.

**The Reception of New Members at General Meetings:** The procedure for the introduction and reception of new members at General Meetings is now as follows. New members will be asked to notify the Secretary beforehand of the date of the General Meeting at which they desire to be introduced, and a printed postcard will be sent to each newly elected member for this purpose. They will be asked to take their seats on arrival in a special row of seats reserved and marked for them. At the beginning of the meeting, on the invitation being given to present themselves for formal admission, each new member will be led up to the Chairman by one supporter, and the Chairman will formally admit him to membership.

The introduction and reception of new members will take place at any of the Ordinary General Meetings of the Royal Institute *with the exception of the meeting on* 15 *April* 1947, *Presentation of Royal Gold Medal.*

**Associates and the Fellowship:** Associates who are eligible and desirous of transferring to the Fellowship are reminded that if they wish to take advantage of the next available election they should send the necessary nomination forms to the Secretary, R.I.B.A. as soon as possible.

**The Use of Titles by Members of the Royal Institute:** In view of the passing of the Architects Registration Act 1938, members whose names are on the Statutory Register are advised to make use simply of the title 'Chartered Architect' after the R.I.B.A. affix. The description 'Registered Architect' is no longer necessary.

**Correspondence with the Institute:** In order to facilitate speedier attention to correspondence, and to relieve the staff of a great deal of research, it is particularly requested that members and students will kindly state in all correspondence with the Institute the class of membership (F, A, L or Student) to which they belong.

**Composition of Subscriptions for Life Membership:** Fellows, Associates and Licentiates of the R.I.B.A. may become life members by compounding their respective annual subscriptions. Full details may be obtained on application to the Secretary, R.I.B.A.

**Part-Time Study for R.I.B.A. Examinations:** The R.I.B.A. has been notified that several students who desire part-time or evening training in architecture have been unable to secure admission to a suitable technical college or art school. This matter is receiving the Institute's attention, and the Secretary would be glad to hear from any students who experience difficulty in this direction.

**New Building Materials and Preparations:** The attention of members is drawn to the fact that information in the records of the Building Research Station, Garston, Watford, Herts, is freely available to any member of the architectural profession, and architects would be well advised when considering the use of new materials and preparations of which they have had no previous experience, to apply to the Director for any information he can impart regarding their properties and application.

**Classes of Retired Members:** Under the provisions of By-law 15 applications may be received from those members who are eligible for transfer to the class of 'Retired Fellows', 'Retired Associates' or 'Retired Licentiates'.

The By-law is as follows:—

'Any Fellow, Associate or Licentiate who has reached the age of 55 and has retired from practice may, subject to the approval of the Council, be transferred without election to the class of "Retired Fellows", "Retired Associates", or "Retired Licentiates", as the case may be, but in such case his interest in, or claim against the property of, the Royal Institute shall cease.

'The amount of the annual subscription payable by such "Retired Fellows", "Retired Associates" or "Retired Licentiates" shall be one guinea, or such amount as may be determined by resolution of the Council, excepting in the case of those who have paid subscriptions as full members for 30 years, and who shall be exempt from further payment. A "Retired Fellow", "Retired Associate" or "Retired Licentiate" shall have the right to use the affix of his class with the word "Retired" after it, shall be entitled to receive the JOURNAL and Kalendar, shall be entitled to the use of the Library, and shall have the right to attend General Meetings, but shall not be entitled to vote. A "Retired Fellow", "Retired Associate" or "Retired Licentiate" shall not engage in any avocation which in the opinion of the Council is inconsistent with that of architecture. Nothing contained in this By-law shall affect the rights of persons who at the date of the passing of this By-law are members of the classes of "Retired Fellows" and "Retired Members of the Society of Architects"'.

# ALLIED SOCIETIES

**Hampshire and Isle of Wight Architectural Association Annual Dinner.** The President, Sir Lancelot Keay, K.B.E., M.Arch (Lvpl.), was among the guests at the Ninth Annual Dinner of the Hampshire and Isle of Wight Architectural Association held at Southampton on Friday 7 February 1947. Responding to the toast of 'The Institute' the President spoke of the social revolution that was going on in this country. He said he was an emphatic traditionalist, but was quite willing to develop from those traditions something worthy of this country. He saw no place for any violent introduction of the Continental style. As an architect, he wanted architects to develop a style for the country at this time, and he hoped intensely that a style would be evolved that would make for the betterment of the people. 'Work hard, work well and work sincerely at your art', he urged, and then the future must be most thrilling and glorious.

The President stressed the need to learn the place of art in the world. Ordinary utility and efficiency were insufficient. Man would not be satisfied with that. There would be no feelings of life at all unless in every walk of life some heed was paid to art. The world was what the builders of it made it, and so far as architects' responsibility was concerned they would not shirk it.

The Sheriff of Southampton (Councillor Frank Dibben) had proposed the toast of the Institute, to which the President replied. He congratulated the Hampshire Association on its progress. He thought a happy feature was the return to the profession of many young men who would provide a revitalizing force so necessary in a war-weary world and in putting preparation for the great and exciting tasks that lay ahead.

Mr. A. E. Geens [*F*], the Hampshire Association President, who presided at the function, proposed 'Local Government Authorities.' He paid tribute to the Institute's Honorary Secretary, Mr. A. L. Roberts [*F*], who was the Association's President from 1937–39, and to the Association's Hon. Secretary, Mr. Ernest Bird, of Southampton. Both Mr. A. L. Roberts and Mr. Ernest Bird, with Mr. C. D. Spragg, the Institute's Secretary, were present.

Other principal guests were the Mayor of Southampton (Alderman Fred Smith, J.P.), the Mayor of Winchester, the Presidents of the Winchester, Portsmouth and Southampton Chambers of Commerce, the President of the Southampton and District Building Trades Employers and the Secretary of the Andover, Winchester and District Association of Building Trades Employers.

Col. R. F. Gutteridge, T.D. [*F*], proposed 'The Guests', and Mr. C. G. Henderson (President, Southampton Chamber of Commerce) and Mr. R. W. Whittington (President, Southampton and District Association of Building Trades Employers) responded.

# BOARD OF ARCHITECTURAL EDUCATION

**R.I.B.A. Examination Concessions for Students whose Studies have been Interrupted by War Service.** It has been decided that the R.I.B.A. scheme of examination concessions for students whose studies have been interrupted by war service shall be available to those called up after the end of the war with Japan but before 1 January 1947, whose age group does not entitle them to deferment. Particulars of the scheme and the form of application may be obtained from the Secretary, R.I.B.A., 66 Portland Place, London, W.1.

**R.I.B.A. Final and Special Final Examinations. London Centre—July 1947.** The attention of candidates for the above examinations is drawn to the fact that the Oral Examination at the London centre will be held on *Friday* 11 *July*, instead of Thursday 10 July as previously announced.

**R.I.B.A. Final Examination, December 1946.** The Final Examination was held in London, Edinburgh and Belfast from 4 to 13 December 1946.

Of the 175 candidates examined, 107 passed as follows:

| | |
|---|---|
| Passed Whole Examination .. .. | 32 |
| Passed Whole Examination, subject to approval of Thesis .. .. .. | 39 |
| Passed Whole Examination, subject to approval of remaining Testimonies of Study and Thesis .. .. .. | 8 |
| Passed Whole Examination, subject to approval of remaining Testimonies of Study .. .. .. .. .. | 2 |
| Passed Part 1 only .. .. .. | 25 |
| Passed Part 2 only, subject to approval of Thesis .. .. .. .. | 1 |
| | 107 |

68 candidates were relegated.

The successful candidates are as follows:

*Whole Examination*

| | |
|---|---|
| Allan, James S. A. | Bantin, Charles E. |
| *Ansell, Harry B. | *Barry, Robin L. |
| Baff, Lionel C. McK. | †Bates, Sidney H. |
| | *Beresford, Jack |
| *Baldwin, Thomas A. | *Bethell, George A. |

Bishop, Harold C.
*Blakesley, Douglas A.
*Bowler, Frederick C.
*Brandreth, George A. W.
Buchanan, Colin D.
*Burrows, Walter F.
Castle, Gordon R.
Chandler, Ernest W. (*Distinction in Thesis.*)
*†Chapman, Charles W. E.
*Clowes, George M.
Collier, Harold J.
*Cousins, James S.
Cox Martin, Peter H.
Davison, John G. (*Distinction in Thesis.*)
Deakin, Frank
*Dickson, Frederick W.
*Dixon, John J. S.
Farquhar, James A.
*Findlay, James R.
Fordham, George R. (*Distinction in Thesis.*)
Foreman, Robert W.
Gostling, Gerald A.
*Greenacre, Walter
*Halse, George A.
Harries, Margaret W. (Miss)
*Hart, Kenneth
*Hawkins, Francis F.
*†Heppell, Stuart A. B.
*Herriott, James M.
Holloway, Sidney M.
*Hopkins, Thomas H. G.
Humphreys, Henry R.
Husband, Raymond J.
Johnson, Frank W.
*†King, Ronald H.
*Lang, Geoffrey
*Lewis, John T.
McLennan, David J.
*Makins, Thomas K.
Maw, Philip G.
*†Millner, Geoffrey F.
Moxham, Brian J. (*Distinction in Thesis.*)
*Murphy, Joseph W.
Nibbs, Margaret (Miss)
*†Nicholas, Sydney E.
*Page, Robert
*Phillips, Leonard W. C.
*Powell, Patrick T.
*Raynham, James E.
*Redpath, John T.
*Riley, Eric W.
Ritchie, David A. H.
*†Robson, Christopher E. Sakkides, Nicos O.
*†Sharma, Dev P.
*†Simpson, John E.
*Smith, R. Gordon
Stott, Philip S.
*Stroud, Hedley W.
*Strubbe, John A.
Tranter, James H.
Travis, Alan
*Tregoning, Vivian A.
*Turnbull, Robert G. H.
Turner, Clifford W. (*Distinction* in *Thesis.*)
Watson, Kenneth J. V.
*Whitelaw, Alex R.
*Williams, Herbert J.
†Williams, William T.
*Wood, Kenneth M.
Woodford, Charles A.
Young, Frank W.

*Subject to approval of Thesis.
†Subject to approval of remaining Testimonies of Study.

*Part 1 only*

Alaway, Kenneth H. M.
Allerton, Kenneth
Bates, Jack
Bravington, F. B. C.
Carter, John B.
Eckersley, Henry
Finlayson, William E.
Frankish, Gerald D.
†Gamble, Ronald J. R.
Gardiner, Mary V. (Miss)
†Gardner, Vernon W. R.
Hollingworth, Harry
Hughes, Eric C. C.
Ingall, Howard G.
Lavender, Mavis E. (Miss)
McDonald, Angus
Murgatroyd, Henry I.
Purdy, I. Millward
Reynolds, Donald A. R.
Schutte, Conrad H.
Stinson, William
Taylor, Paul H.
Tomlinson, Sydney T.
Walker, Bernard G.
Wickham, James H. D.

†Subject to approval of remaining Testimonies of Study.

*Part 2 only*

*Rumsby, George W. E.

*Subject to approval of Thesis.

**The Special Final Examination, December 1946**
The Special Final Examination was held in London, Edinburgh and Belfast from 4 to 13 December 1946.

Of the 240 candidates examined, 111 (37 in Part 1 only, 2 in Part 2 only) passed.

129 candidates were relegated.

The successful candidates are as follows:

*Whole Examination*

Alp, William
Appleton, Harold
Armstrong, Thomas
Bell, Thomas, F.
Boning, Ray W.
Boorman, Reginald A.
Bryant, R. Robert
Bunce, Roland J.
Callard, Henry W.
Chappelle, Reginald T.
Corsar, Peter McG.
Creak, Harold
Cunningham, William P.
Davies, David S.
Dean, Robert S.
Deans, Ralph W.
Denyer, John H.
Edmonds, Alexander H.
Elliott, Arthur C.
Evans, W. G. Stephen
Everest, Arthur L. R.
Farey, Michael A. J.
Fletcher, Harvey V.
Fraser, Rupert B. A.
Gaymer, Anthony D.
Goldthorp, Joseph
Goodridge, Sidney P.
Green, Harry A.
Guise, John B.
Hamilton, Humphrey A.
Hammond, Peter D.
Hart, Cyril A.
Heathcote, Cyril
Hemingway, Richard
Higgins, James H.
Howlett, Leslie R.
Hunt, Arthur
Ingham, Arthur S.
Julius, George L.
Landau, Alexander W.
Lane, Alexander J.
Launder, Victor C.
Love, Henry
McCormack, John F.
Marshall, Arthur J.
Milne, William F.
Mitchell, Ronald H.
Morgan, Emslie A.
Morris, W. Rowland
Mould, Frank
Neave, Raymond F.
Newton, Eric A.
Norton, George P.
Osman, Percival F. R.
Pryde, Donald I.
Purcell, Donovan C.
Raeburn, Robert
Royle, Eric V.
Sartain, George L.
Smith, Albert E.
Steel, George
Stewart, W. Stanley
Tansley, Harry M.
Tory, Edmund C.
Turnbull, Denis L.
Wakefield, Victor H.
Wakefield, William
Ward, John F.
Wark, William R.
Weinmann, Gunter A.
Whinnett, John
Whitby, George F.

*Part 1 only*

Anderson, Robert
Backhouse, Edmund J.
Batho, Lawrence W.
Birch, James S.
Conway, Leslie J.
Date, Patrick
Eldridge, Frank H.
Firshman, Harry
Giddings, Hubert R.
Greatrex, Rolland I.
Halstead, Leslie J. P.
Haydon, George C.
Henderson, John E.
Knight, Henry R. E.
Leopard, Gordon C.
Lister, Norman
Locke, George S. K.
Lusty, Raymond
Manning, Philip W.
Miller, William R. T.
Mimmack, Maxwell A.
Moreton, John L.
Morley, Leslie
Northgraves, Neville H.
Reichwald, George W.
Richardson, Kenneth F.
Silkstone, Ronald
Skolimowski, J.
Smith, E. Watson
Trant, Harold W.
Underwood, Sidney
Viner, Wilfred J.
Wall, John V.
Ward, William M.
Whiffen, Robert F.
Wilkie, Robert A.
Williams, J. Stanley

*Part 2 only*

Dixon, Arthur A.
Ramsay, James

The following candidates have also passed the Special Final Examination:

Addison, Alexander J.
Brown, Reginald W. W.
Harris, Maurice H.
Kent, Peter Noall, Norman M.
Vincent, Leonard G.

**The Examination in Professional Practice for Students of Schools of Architecture Recognized for Exemption from the R.I.B.A. Final Examination**
The Examination was held in London and Edinburgh on 10 and 13 December 1946. Of the 11 candidates examined, 9 passed and 2 were relegated.

The successful candidates are as follows:

Caunt, Joseph J. A.
Christensen, Angela (Miss)
Cleverly, Charles P.
Hiner, W. Edward
Marrable, Beryl M. S. (Miss)
Newman, Stanley A.
Robertshaw, George V.
Ware, John L.
Whalley, James

**Examination of Licentiates to Qualify for Candidature as Fellows.** The Examination of Licentiates to qualify for candidature as Fellows was held in London from 4 to 9 December 1946. The successful candidates were:

Davidson, C. S. M.
Haslam, Frank C.
Kirkham, A. V. J.
Marshall, D. Plaskett.
Roberts, Ian F.
Wilcox, John W.
Wright, Frederick R.

**Examination for the R.I.B.A. Diploma in Town Planning.** At the Examination held in July 1946 the following were successful and have been awarded the R.I.B.A. Diploma in Town Planning:

Corner, Thomas Henry.
Docking, Stanley James
Salter, Edward Thomas.

**R.I.B.A. Examinations. Special Final Examination, Salisbury, Southern Rhodesia. December 1946.** Mr. Alexander D. Jack has passed the R.I.B.A. Special Final Examination held at Salisbury, Southern Rhodesia, in December 1946.

## COMPETITIONS

**Proposed Technical College: Peterborough**
Peterborough Joint Education Board invite architects of British nationality to submit in open competition designs for new buildings to be erected at Peterborough for a technical college.

Assessor: Mr. T. Cecil Howitt, D.S.O. [*F*].

Premiums: £500, £250 and £150.

Last day for submitting designs: 30 June 1947.

Conditions may be obtained on application to the Chief Education Officer, Education Offices, Peterborough.

Deposit: £2 2*s*.

**Village Planning Competition.** The Central Landowners' Association invites architects to submit, in competition, designs for the development of four villages.

Assessors: Prof. Sir Patrick Abercrombie, P.P.T.P.I. [*F*]; Mr. G. Langley-Taylor, M.T.P.I., F.S.I., F.L.A.S. [*F*]; Mr. Thomas Rayson, F.S.A. [*F*].

Premiums: £250, £200, £150 and consolation prize (or prizes) of £100.

Last day for submitting designs: 30 June 1947.

Conditions may be obtained on application to the Central Landowners' Association, 58 Victoria Street, S.W.1.

Deposit: one guinea.

## GENERAL NOTES

**National Federation of Building Trades Employers—Tendering without Quantities.** The Hon. Secretary of The Berks. Bucks and Oxon Architectural Association draws attention to the importance of the National Rule of the National Federation of Building Trades Employers concerning the necessity to supply Bills of Quantities for all work value £1,500 and over, details of which were given in Mr. Charles Woodward's 'Practice Notes' on Page 410 of the July, 1946, R.I.B.A. JOURNAL.

For the information of all members the National Federation's ruling is repeated in Practice Notes in this JOURNAL.

**Czechoslovak Government Scholarships for British Students 1947-48.** It is probable that a number of scholarships will be offered to British students by the Czechoslovak Ministry of Education for the academic year 1947-48 for the purposes of post-graduate study. Definite details are not yet available, but those interested are requested to submit their names to the Educational Director, The British Council, 3 Hanover Street, W.1, who will send full details to each prospective candidate as soon as they have been received.

**Swedish Scholarships for 1947-48.** The Swedish Government and the Swedish Institute for Cultural Relations offer respectively one and two scholarships (value approximately £175 each) for a year's post-graduate study at a Swedish university or similar institution for the academic year 1947-48. This grant will cover cost of living and tuition, but not travelling expenses. Applications, accompanied by an academic record, a tutor's testimonial, the names of two additional referees and proposed subject of study, should be sent to the Educational Director, The British Council, 3 Hanover Street, W.1, before 31 March. A knowledge of Swedish, though desirable, is not essential.

# Notes from the Minutes of the Council

### MEETING HELD 11 FEBRUARY 1947

**The Honorary Fellowship:** The Prime Minister, the Right Hon. C. R. Attlee, C.H., M.P., has accepted the Council's nomination for election to the Honorary Fellowship.

**Address by the Minister of Health:** The Minister of Health, the Right Hon. Aneurin Bevan, M.P., addressed the Council on the work and aims of the Ministry in regard to building. A report of his speech is published in this JOURNAL.

**Appointments:**

Practice Committee: Mr. Arthur Bailey, O.B.E. [*F*], in place of the late Mr. Joseph Hill [*F*].
R.I.B.A. Bronze Medal: Birmingham and Five Counties Architectural Association. R.I.B.A. Representative on Jury: Mr. Verner O. Rees [*F*].
Public Relations Committee: The Hon. Lionel Brett [*A*].
Committee of Moderators: Mr. Stanley C. Ramsey [*F*].
Schools Committee: Mr. S. E. T. Cusdin [*A*], in place of Mr. Wilfred Woodhouse [*A*], who has resigned.
Town Planning Joint Examination Board: Mr. W. Dobson Chapman [*L*], in place of Dr. H. V. Lanchester [*F*], who has resigned.

**Joint Negotiating Committee on Salaries:** The Council have invited the Royal Incorporation of Architects in Scotland to nominate a representative to serve on this Committee.

**Report of the Board of Architectural Education:** The Council have approved the recommendations of the Board that steps be taken to continue and intensify the collaboration of the R.I.B.A. with Schools of Art and Technical Institutions with facilities for the instruction of intending architects.

(*a*) As in the past, Schools will be sent periodically as necessary educational literature issued by the R.I.B.A., e.g., examination syllabuses; outline courses of study, pamphlets of past examination papers, etc.

(*b*) As in the past each R.I.B.A. Allied Society will be supplied with the addresses of the Schools in the area of the Society with a view to the Society establishing contact with the Principal, and, by agreement, appointing a suitably qualified visitor or visitors to assist wherever possible.

The Board will also request the Schools to supply annually statistics of the number of students taking architectural courses. Such statistics which have not hitherto been immediately available will provide valuable data as to the number of entrants into the profession.

**Architects' Registration Council of the United Kingdom:** (1) Under the provisions of the Architects (Registration) Act, 1931, the R.I.B.A is entitled to nominate 17 members to serve on the Architects' Registration Council for the year ending March 1948.

The following members have been appointed:

Mr. Arthur Bailey, O.B.E. [*F*]. Mr. Darcy Braddell [*F*]. Mr. Martin S. Briggs [*F*]. Mr. A. C. Bunch [*F*]. Mr. Cecil Burns [*F*]. Mr. A. M. Chitty [*F*]. Mr. R. B. Craze [*F*]. Mr. A. B. Knapp-Fisher [*F*]. Mr. H. V. Lobb [*F*]. Lieut.-Colonel E. D. J. Mathews [*A*]. Mr. A. L. Roberts [*F*]. Lieut.-Colonel V. H. Seymer, D.S.O., M.C. [*A*]. Mr. H. G. C. Spencely [*F*]. Mr. Sydney Tatchell, C.B.E. [*F*]. Mr. F. C. Wakeford [*L*]. Mr. Michael Waterhouse, M.C. [*F*]. Mr. F. R. S. Yorke [*F*].

(2) Under the same statute the R.I.B.A. is entitled to nominate 4 members to serve on the Admission Committee of the Council for the year ending March 1948.

The following members have been appointed:

Mr. Arthur Bailey, O.B.E. [*F*]. Mr. R. B. Craze [*F*]. Mr. Denis Poulton [*A*]. Mr. A. T. Scott [*F*].

**Deferment of National Service:** The Council approved the proposals of the Ministry of Labour and National Service on the conditions and extent of deferment of call-up for National Service to be allowed to students and pupils training as architects. Facilities for deferment up to the age of 21 are now extended to pupils and assistants in offices of practising architects who are also carrying out part-time study for the Intermediate Examination and who conform to certain other conditions. A full statement of the arrangements is published in this JOURNAL.

**Membership:** The following members were elected: As Honorary Corresponding Member 1, as Fellows 7, as Associates 15, as Licentiates 39.

**Election: 15 April 1947:** Applications for election were approved as follows: As Honorary Associates 5, as Fellows 5, as Associates 8, as Licentiates 16.

**Election: 8 July 1947:** Applications for election were approved as follows: As Associates (Overseas Candidates) 10.

**Students:** 72 Probationers were elected as Students.

**Applications for Reinstatement:** The following applications were approved: As Associate: Owen Hanworth Cockrill; as Licentiates: Mathew Cormio, Frederick Stanley Palling.

**Resignations:** The following resignations were accepted with regret: Fellows: Eric Mendelsohn, Philip Harold Pilditch, Cuthbert Bertram Stewart. Associates: Colin Keith Adamson, Andrew Stuart Burnett, John Harold Edgecumbe, Mrs. Nesta Lassarre Metford, Donald Charles Ward. Licentiates: William Henry Collin, Ernest Edward Colman, Harry St. Clair Garrood, Richard George Peirce, Ernest Charles Surtees, Sidney Isidore Weston, Edmund Oakley Wilkins, William Henry Williams.

**Applications for Transfer to Retired Members' Class under By-law 15.** The following applications were approved:

*As Retired Fellows:* Albert Edward Batzer, J. McLintock Bowie, George Hastwell Grayson, Vasudeo Ramchandra Talvalkar.

*As Retired Associates:* John Edgar Bullock, Herbert Carnelley, William Dean, Louis Sydney Henshall, William Percy Marr, Charles S. F. Palmer.

*As Retired Licentiates:* Thomas Mortimer Bricknell, Ratcliffe Fielding, Albert Lakeman, Robert Wemyss.

# Membership Lists

### ELECTION: 11 FEBRUARY 1947

The following candidates for membership were elected on 11 February 1947.

AS HON. CORRESPONDING MEMBER (1)

**Vischer: Paul,** Basle, Switzerland.

AS FELLOWS (7)

**Green: Ralston Tilsley** [*A* 1926].
**Hurst: Robert Joseph, M.A.** (Cantab.) [*A* 1935].
**Johnson: Frank Leslie** [*A* 1921].
**Moir: Berkeley Lowndes** (Lieut.-Commander R.N.V.R.) [*A* 1937], Rochdale.
**Potter: Fred** [*A* 1939], Bromsgrove.

And the following Licentiates who have passed the Examination qualifying for Fellowship :—

**Doyle: Francis Frederick James Hodges,** P.A.S.I.
**Searley: Frank John,**

AS ASSOCIATES (15)

**Amcotts: William,** Selby.
**Boothroyd: Alec Richard,** Nottingham.
**Chong: Swee Wah.**
**Fleming: Robert Sinclair.**
**Fleming: Thomas Loudon,** Alloa.
**Hands: Stanley James,** Huntingdon.
**Hann: Edmund Graeme, B.Arch.** (L'vpl.), Ross-on-Wye.
**Harris: Maurice Henry,** Coventry.
**McKenzie: Sheila (Miss).**
**Mollett: Enid (Miss).**
**Newcombe: Vernon Zunz, A.M.T.P.I.,** Saltburn-by-the-Sea.
**Pogany: Denes.**
**Rheinberg: Eric.**
**Ritter: Eric Ernest.**
**Stanford: Adela Lucia Lyndon (Miss).**

AS LICENTIATES (39)

**Abercrombie: Nathaniel Gordon, M.A.** (Arch.) (Cantab.).
**Allen: Sidney Norman.**
**Atkinson: Kenneth,** Sheffield.
**Atkinson: William Child, M.A.** (Oxon), Bradford.
**Bailey: Thomas Aubrey.**
**Bamford: Adie.**

**Bath: John Henry Arthur,** Portishead.
**Blair: Archibald Stamper,** Birmingham.
**Brooks: John,** Wakefield.
**Coltman: Arthur Oakley, M.B.E.**
**Copping: John.**
**Cottingham: Hector Dillon Courtney** (Major).
**Cox: Oliver Charles,** Nottingham.
**Craig: John Stone,** Edinburgh.
**Craven: Arthur Denby.**
**Fry: Neville Lewis.**
**Hannen: Llewellyn Omar Leo.**
**Hendry: Robert Archibald,** Aberdeen.
**Hills: George Charles Marriner.**
**Hopkinson: William,** Bury.
**Howard: Alfred Henry,** Winchester.
**Hunter: Arthur,** Kirkcudbright.
**Kneen: Claude Jennings, P.A.S.I.** (Capt. R.E.).
**Knott: Robin Dagworthy.**
**Mackintosh: James Wilson,** Bristol.
**MacMinn: John,** Birmingham.
**Matthew: Basil Roland.**
**Neale: Henry,** Norwich.
**Newell: William Frank,** Nottingham.
**Nicholls: Cyril,** Sheffield.
**Parslow: William Edward.**
**Rose: John Neil.**
**Sherwin: Bernard,** Nottingham.
**Sibthorp: Thomas, P.A.S.I., A.M.T.P.I.**
**Taylor: Albert Edward Maurice,** Oxford.
**Thorpe: Geoffrey Hereward.**
**Tomlin: Kenneth John.**
**Wilkinson: Arthur.**
**Woolhouse: Frank Leslie.**

## ELECTION: 15 APRIL 1947

An election of candidates for membership will take place on 15 April 1947. The names and addresses of the candidates, with the names of their proposers, found by the Council to be eligible and qualified in accordance with the Charter and By-laws, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Saturday 12 April 1947.

The names following the applicant's address are those of his proposers.

AS HONORARY ASSOCIATES (5)

**Aberconway: The Rt. Hon. Lord,** C.B.E., Bodnant, Tal-y-cafn, Denbighshire, North Wales. Proposed by the Council.

**Barlow: Sir Thomas Dalmahoy,** G.B.E., 11 Wimpole Street, W.1. Proposed by the Council.

**Knox-Shaw: Thomas,** M.C., M.A., Master of Sidney Sussex College, Cambridge. Proposed by the Council.

**Macmillan: The Rt. Hon. Lord,** G.C.V.O., LL.D., Moon Hall, Ewhurst, near Guildford, Surrey. Proposed by the Council.

**Methuen: The Lord,** Corsham Court, Wilts. Proposed by the Council.

AS FELLOWS (5)

**Bloomer: Harry Clifford** [*A* 1932], 73 Hagley Road, Birmingham 16. J. B. Surman, J. W. Wilson and Alfred Hale.

**Burridge: Patrick Francis** [*A* 1935], Borough Architect, Stockton-on-Tees; "The Pynes", South Road, Norton-on-Tees. S. W. Milburn, R. N. MacKellar and Arthur Harrison.

**Lewis: Hilary (Mrs.),** B.Arch.(L'pool) [*A* 1932], 17 Chepstow Crescent, W.11; Eller Close, Grasmere, Westmorland. Prof. Sir Charles Reilly, Prof. L. B. Budden and H. J. Thearle.

**Orman: Frederick Thomas** [*A* 1936], Quarry Hill House, Quarry Street, Guildford, Surrey. Applying for nomination by the Council under By-law 3 (d).

**Spence: Basil** [*A* 1933], 40 Moray Place, Edinburgh. F. R. S. Yorke, T. S. Tait and Joseph Emberton.

AS ASSOCIATES (8)

**Barne: Ivo Miles** (Arch. Assoc. (London) Sch. of Arch.), The Mill, Birch, Colchester. D. W. Clark and applying for nomination by the Council under By-law 3 (d).

**Binney: Sylvia Murial (Miss)** (Leeds Sch. of Arch.), Sunnybrook, Curly Hill, Ilkley. Hubert Bennett, E. C. Scherrer, J. K. Hicks.

**Chapple: William Norman,** Dip. Arch. (Cardiff) (Welsh Sch. of Arch., the Tech. Coll., Cardiff), 9 Windermere Avenue, Lake Road West, Cardiff. Lewis John, Sir Percy Thomas, T. A. Lloyd.

**Corker: Eric John** (The Poly., Regent Street, London: Sch. of Arch.), 208 Long Lane, Bexleyheath, Kent. E. C. Scherrer, Anthony Minoprio, J. K. Hicks.

**Heyman: Ernest Keith** (Capt.) (The Poly., Regent Street, London: Sch. of Arch.), 55 Riviera Gardens, Leeds, 7. Hubert Bennett, E. C. Scherrer, J. K. Hicks.

**Loader: Dionyse Creswell (Miss),** (The Poly., Regent Street, London: Sch. of Arch.), Braziers, Chipperfield, Herts. E. C. Scherrer, J. K. Hicks, Leslie Chackett.

**Ryan: Thomas John** (Univ. Coll., Dublin, Ireland: Sch. of Arch.), 30 Morehampton Road, Dublin. J. V. Downes, J. J. Robinson, Raymond McGrath.

**White: Lynton Stewart,** M.B.E., M.A. (The Poly., Regent Street, London: Sch. of Arch.), 81 Stafford Court, W.8. E. C. Scherrer, L. A. Chackett, J. K. Hicks.

AS LICENTIATES (16)

**Crowther: John Richard,** Surveyor's Dept., Town Hall, Stockport; 321 Bramhall Lane, Stockport. H. T. Seward. W. A. Johnson, Benjamin Waterhouse.

**Eugene: Frederick James,** c/o Messrs. Montague Evans & Son, 21 Brunswick Square, W.C.1; "Sterling House", 55 Blakes Avenue, New Malden, Surrey. H. G. Stanham, A. R. Conder, A. F. G. Stanham.

**Fish: Herbert,** Education Dept. Corporation of Glasgow, 129 Bath Street, Glasgow, C.2; 239 Aros Drive, Mosspark, Glasgow, S.W.2. Alexander Wright, John Stewart, D. B. Hutton.

**Kingsnorth: Stanley Leslie,** Borough Engineers' Dept., Town Hall, Hackney, E.8; 110 Ash Grove, Palmers Green, N.13. Applying for nomination by the Council under By-law 3 (d).

**Lee: Robert Cresswell Austin,** "Jesmond", Caergwrle, nr. Wrexham, Denbighshire. H. C. W. Strickland and applying for nomination by the Council under By-law 3 (d).

**Mason: Andrew,** c/o Alexander Dunlop, Esq. [*L*], 3 Croft Street, Kilmarnock; 14 Wallace Street, Kilmarnock. G. Steel, William Cowie, William McCrea.

**Massey: Cyril Claude,** Hassall Road, Sandbach, Cheshire. W. F. Slater, E.B. Kirby, R. Matthews.

**Newman: Henry Cecil,** Architect's Dept., L.C.C., County Hall, S.E.1; 109 Colborne Way, Worcester Park, Surrey. W. J. Durnford, G. W. Home, R. Wilson.

**Price: Philip Roger,** c/o Ministry of Works, Government Buildings, Penwortham, Preston; 40 Wood Street, Lytham St. Annes, Lancs. Albert Schofield, Norman Jones, G. E. Tonge.

**Seagrim: Francis Stanley,** Lloyds Bank Chambers, Paignton, S. Devon; "Eastways", Shorton Road, Paignton, S. Devon. J. C. C. Bruce, W. N. Couldrey, G. S. Bridgman.

**Slaney: Oliver Edward Frank,** E.10. War Office, Romney House, S.W.1; 30 Meadow Gardens, Staines, Middlesex. W. A. Ross, C. J. Mole and applying for nomination by the Council under By-law 3 (d).

**Smith: Clement James,** Regional Architect, Ministry of Health, 39 Grove Hill Road, Tunbridge Wells; 14 Queen's Road, Tunbridge Wells. F. D. Ward, B. W. Fitch-Jones, C. H. Strange.

**Smith: John Batson,** Assistant Architect, Ministry of Education, Belgrave Square, S.W.1; The Flat, High Street, Great Missenden, Bucks. E. C. Kent, P. V. Mauger, F. E. Towndrow.

**Stevenson: David Allan,** Senior Assistant, S.C.W.S. Ltd., Architectural Dept., 119 Paisley Road, Glasgow, C.5; 198 Main Street, Chapelhall, nr. Airdrie, Lanarkshire. Col. J. M. Arthur and the President and Secretary of the Glasgow Inst. of Arch. under By-law 3 (a).

**Stevenson: Stanley Benjamin,** Assistant Architect, Ministry of Works, 76 Newton Street, Manchester; 4 Colonial Road, Heaviley, Stockport. W. A. Johnson, H. T. Seward, Benjamin Waterhouse.

**Wood: Frank,** Dip. Arch. (Edin.), 73 George Street, Edinburgh 2; 54 Duddingston Road West, Portobello. J. R. McKay, the late Charles E. Tweedie, A. H. Mottram.

## ELECTION: 8 JULY 1947

An election of candidates for membership will take place on 8 July 1947. The names and addresses of the overseas candidates, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Saturday 28 June 1947.

The names following the applicant's address are those of his proposers.

AS ASSOCIATES (10)

**Allsopp: John Edward** [Passed a qualifying Exam. approved by the R.A.I.A.] 137 Duntroon Street, Hurlstone Park, New South Wales. B. J. Waterhouse, J. F. Hennessy, W. R. Richardson.

**Benjamin: Joshua Moses** [Final] Abdulla Terrace, K.E.M. Road, Parel, Bombay. C. M. Master, S. S. Reuben, Claude Batley.

**Bhuta: Vanu Gopalji** [Final], 44A Tilak Road, Santa Cruz, Bombay. C. M. Master, D. W. Ditchburn, S. S. Reuben.

**Kent: Peter** [Special Final], c/o Messrs. Blackburne and Norburn, P.O. Box 890, Nairobi, Kenya. S. L. Blackburne, G. B. E. Norburn, Mrs. E. D. Hughes.

**Lovell: Guy Tasman** [Passed a qualifying Exam-approved by the R.A.I.A.], 1 Honda Road, Neutral Bay, Sydney, Australia. Prof. Leslie Wilkinson, Prof. A. S. Hook, J. C. Fowell.

**Murphy: Dermot Barry** [Passed a qualifying Exam. approved by the R.A.I.A.], 14 Montana Flats, Wulworra Avenue, Cremorne Point, Sydney. J. C. Fowell, J. L. S. Mansfield, K. H. McConnell.

**Nilgiria: Jamshed Cowasjee** [Final], 19 Union Place, Colombo, Ceylon. C. M. Master, Claude Batley, S. S. Reuben.

**Patil: Arvind Shankerrao** [Final], "Cooty", College Road, Opp. Portuguese Church, Dadar, Bombay. C. M. Master, H. F. King, S. S. Reuben.

**Pinshow: David** [Passed a qualifying Exam. approved by the I.S.A.A.], 647 Maritime House, Loveday Street, Johannesburg. A. S. Furner, D. M. Sinclair and applying for nomination by the Council under By-law 3 (d).

**Pollock: John Gathorne Montagu** (Arch. Assoc. (London) Sch. of Arch.), 1301 E 9th Avenue, Denver 3, Colorado, U.S.A. Major H. C. Corlette and the President and Hon. Secretary of the Architectural Association under By-law 3 (b).

# Members' Column

*This column is reserved for notices of changes of address, partnership and partnerships vacant or wanted, practices for sale or wanted, office accommodation, and personal notices other than for posts wanted as salaried assistants for which the Institute's Employment Register is maintained.*

## APPOINTMENTS

**Mr. J. Austen Bent** [*A*] has relinquished the post of Deputy Chief Architect to the Department of Health for Scotland and has taken up the appointment of Chief Technical Officer and Assistant General Manager of the Scottish Special Housing Association Limited.

**Mr. George R. Bruce** [*A*] has been appointed Deputy County Architect for Cardiganshire.

**Mr. W. A. Cornell** [*F*] has retired from practice in Hong Kong and has been appointed an Assessor, War Damage Commission, Norwich Technical Centre, Norwich, Norfolk. His temporary address is 'Annesley Hotel', 6 Newmarket Road, Norwich, Norfolk.

**Mr. F. Glanville Gooding** [*A*], formerly Head of the Technical School of Building Crafts, Corporation Street, Newcastle-on-Tyne, and who has now taken up an appointment as Head of the Senior Building and Evening School, Hammersmith School of Arts and Crafts, Lime Grove, London, W.12, as mentioned in the Members' Column of the 29 January 1947 JOURNAL, points out that his surname in that issue was incorrectly stated to be 'Goodwin'.

**Mr. Thomas H. H. Hancock** [*A*] has been appointed Deputy Town Planner in Malaya and his new address for trade catalogues, etc., is Town Planning Department, M.U., Kuala Lumpur, Malaya.

**Mr. W. R. Hazlewood** [*A*] has been appointed Architect to the Cranbrook Rural District Council, and he will be pleased to receive trade catalogues, etc., at his new address, Council Offices, Hill House, Cranbrook, Kent.

**Mr. C. V. K. Kennedy** [*A*] has been appointed Assistant Architect to the Anglo-Iranian Oil Company and will be pleased to receive trade catalogues etc., at c/o Anglo-Iranian Oil Co. Ltd., Mas jia-i-Sulaiman, Iran.

**Mr. Cecil J. Searle** [*A*] until recently a member of the staff of the City Architect's Department, Guildhall, Hull, has been appointed Lecturer in Architecture at the South-West Essex Technical College, Walthamstow, London, E.17, and will be pleased to receive trade catalogues, etc., at that address.

**Mr. Eric A. Tornbohm** [*A*] has been appointed first Borough Architect, Darlington.

## PRACTICES AND PARTNERSHIPS

The Building Centre and Bureau, Garlick's Building, Exchange Place, Cape Town, and also His Majesty's Trade Commissioner at Cape Town, will be pleased to receive trade literature and catalogues descriptive of new techniques, materials, building schemes, etc., and other printed material which it is desired to bring to the notice of South African architects and members of the building trade through the medium of the South African Building Centre's information department and architects' reading room. Complimentary copies of any pamphlets or publications which might be of interest to the building trade or relating to town planning would also be welcomed and will be placed on view in the Centre's Reading Room at Garlick's Building, Exchange Place, Cape Town.

**Mr. Joseph F. Dixon** [*A*] has recently opened a practice at 16 Bryanston Street, London, W.1 (Welbeck 3848), and will be pleased to receive trade catalogues, etc.

**Mr. G. Flett** [*A*], formerly practising in association with Mr. William Mackie, is now practising on his own account at 7 Seafield Street, Cullen, Banffshire. He will be pleased to receive trade catalogues, etc.

**Mr. Eric Janes** [*A*] is practising at 77 Easton Street, High Wycombe, Bucks, and will be pleased to receive trade catalogues, etc. Pending telephone installation urgent messages may be given by contacting High Wycombe 157.

**Mr. Henry Jennings** [*L*] has retired from the firm of Henry Jennings and Homer, practising at 3 and 5 Church Street, Brierley Hill, Staffordshire, but will continue to act as consultant. Mr. William E. Homer [*L*] has taken into partnership Mr. Joseph T. Lynch [*A*] (late Major, R.E.), and they will continue to practise at the same address, under the style of Jennings, Homer and Lynch (Brierley Hill 7545-6). They will be pleased to receive trade catalogues, etc.

**S. W. Milburn and Partners.** Correction. 29 January 1947 JOURNAL stated the address of this firm to be 18 Fawcett Street, Sunderland and 3 Winchester Street, South Shields. The address in Sunderland should read *52* Fawcett Street. Messrs. W. and T. R. Milburn continue to practise at 17 and 18 Fawcett Street, Sunderland.

**Mr. C. N. Nettleton** [*A*], Government Architect to the Public Works Department, Suva, Fiji, will be pleased to receive trade catalogues, information sheets, etc., and all up-to-date information on modern building materials and manufactures. This is required in connection with a considerable amount of new building work to be carried out in the Fiji Islands under a 10-years' development plan for the building of schools, hospitals, housing, police stations, medical centres, libraries, museums and other municipal undertakings.

**Mr. E. H. Paisley** [*F*] who practises at 142 Windsor House, 46 Victoria Street, London, S.W.1 (Abbey 5980) will be pleased to receive trade catalogues, etc.

**Mr. Gordon Stirrup** [*A*] is now practising at 5 Buckingham Place, London, S.W.1, and will be pleased to receive trade catalogues, etc.

**Mr. Lance. Wright** [*A*] is now practising at 52 Clifton Down Road, Bristol 8 (Bristol 37176) where he will be pleased to receive trade catalogues, etc.

## CHANGES OF ADDRESS

**Mr. Philip Allan** [*A*] has removed to 23A Connaught Street, London, W.2.

**Mr. A. C. Fairtlough** [*A*] and **Mr. D. R. Morris** [*A*] have removed to 8-9, Long Acre, London, W.C.1 (Temp. Bar 9970).

**Mr. John E. G. Green** [*L*] has removed to 262 Malden Road, New Malden, Surrey (Malden 4656) where he will be pleased to receive trade catalogues, etc.

**Mr. Kenneth O. W. Hardy** [*A*] announces his new address for trade catalogues, etc.: C/o Powers and Powers, Chartered Architects, 6-10 Southern Life Building, Smith Street, Durban, Natal, South Africa.

**Mr. M. D. Robinson** [*L*] has removed to 20 Lowndes Street, London, S.W.1 (Sloane 2078).

**Mr. Richard Turley** [*A*] has removed from 49 Jesmond Road, Newcastle-upon-Tyne, to 14 Eldon Place, Newcastle-upon-Tyne (Newcastle 24991). He will be pleased to receive trade catalogues, etc.

**Mr. William G. Wood** [*L*] has removed from 19 Bold Street, Warrington, to 2 Stanley Street, Warrington, Lancs (Warrington 2457). He will be pleased to receive trade catalogues, etc.

## PRACTICES AND PARTNERSHIPS WANTED AND AVAILABLE

Associate, Dip. Arch., ex-major, R.E. (43), competition prizewinner and R.I.B.A. medallist, 19 years qualified experience, desires partnership or responsible post leading to partnership. Reply Box 13 C/o Secretary, R.I.B.A.

Ex-officer member (38) seeks appointment as Senior Assistant with view to partnership in Liverpool architect's office. Reply Box 15 C/o Secretary, R.I.B.A.

Fellow, in Westminster practice, is prepared to receive applications for qualified Junior Partner. Reply Box 11 C/o Secretary, R.I.B.A.

Fellow (late Major R.E.) seeks senior position leading to partnership with established London architect; 15 years pre-war experience. Reply Box 14 C/o Secretary, R.I.B.A.

Partnership or post leading to partnership required by Associate, Dip. Arch. (Leeds), age 40, 6 years in own practice pre-war. Yorkshire, West Country or London preferred. Reply Box 12 C/o Secretary, R.I.B.A.

Old-established practice for sale on South Coast owing to death of principal. For particulars reply Box 20 C/o Secretary, R.I.B.A.

## WANTED AND FOR SALE

For Sale by London member, all equipment of small office, including oak desks and filing cabinets, loose benches, drawing equipment, etc. Reply Box 21 C/o Secretary, R.I.B.A.

For sale. Halden transit theodolite in mahogany case; perfect condition, with tripod, etc. Reply Box 17 C/o Secretary, R.I.B.A.

**Lost:** An old and until now inseparable friend—a pair of folding pocket dividers incorporating pen and pencil compasses, now unpurchasable. Will any member willing to sell similar old dividers or able to say where they can be obtained, please communicate with Michael Waterhouse [*F*], Staple Inn Buildings, High Holborn, W.C.1?

Wanted by West Country firm, two D.E. plan chests, precision level and staff, ranging rods, drawing instruments. Only articles in good condition required. Reply Box 19, C/o Secretary, R.I.B.A.

Wanted, set of railway curves. Reply Box 18, C/o Secretary, R.I.B.A.

Wanted, 'The Design of Nursery and Elementary Schools', by Myles Wright and Gardner-Medwin. Reply Box 16, C/o Secretary, R.I.B.A.


## Your Child's 21st Birthday

An admirable scheme for putting aside savings to provide a gift of lasting value to celebrate the occasion of your child's 21st birthday is available through the medium of an assurance company. To obtain the fullest advantages it is essential that a start be made in the earliest years of your child's life.

Please write for full particulars from the Secretary, A. B. S. Insurance Department, 66 Portland Place, London, W.1 (Telephone: WELbeck 5721). Quote: RE/J when replying.